

## ABSTRACT

Title of Dissertation:       MULTIPLE ASPECTS OF CHILDREN'S  
  PERCEPTIONS OF CLASSROOM PEER  
  SUPPORT AND ADJUSTMENT

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Current conceptual models of social support generally emphasize the importance of the social environment or one's individual perceptions of support as important in well-being. However, social support research has not sufficiently explored whether outcomes are more closely tied to individual perceptions, aspects of the social environment, or the interaction between the individual and the social environment. Within the classroom context, this study investigated whether children's adjustment is linked to their individual perceptions, the supportiveness of the classroom environment, or the congruence between their individual perceptions and those of their peers in a diverse sample of second and third graders. A qualitative measure was used to explore the types of support children give and receive in the classroom. Children's individual perceptions were examined using a self-report measure of self-concept and sociometric nominations of perceived available peer social support. The supportiveness of the classroom was examined using peer acceptance ratings and sociometric nominations of available classroom peer social support. Reciprocal friendship nominations were used to examine the congruence between children's individual perceptions of support and those of their peers. Using standard multiple regression analyses, these constructs were used to predict teacher-rated externalizing problems, teacher-rated internalizing problems, teacher-rated school problems, and children's reports of negative emotion. As a group, the predictors were

related to all adjustment outcomes. However, none of the predictors emerged beyond the others when predicting teacher-rated externalizing problems. Peer acceptance and mutual friendship best predicted teacher-rated internalizing problems; self-concept, peer acceptance, and mutual friendship best predicted teacher-rated school problems; and self-concept best predicted self-reported negative emotions. Therefore, individual perceptions, aspects of the social environment, *and* the congruence between the perspective of the individual and potential providers of support are important depending on the outcome. Within the classroom context, children primarily described support as academic, followed by social-emotional support, and to a lesser extent, material-physical support. These particular findings have implications for constructing context-specific measures of perceived available peer social support. The use of sociometric nominations to measure perceptions of support is discussed along with implications for theory and practice, and directions for future research.

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AND ADJUSTMENT

by

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## CHAPTER 1

### Background Information and Introduction to the Study

This chapter will begin with a brief, historical overview of the broad construct of social support including a discussion of the three main conceptual models that have emerged in the literature. Though definitions of the construct are continually evolving, researchers typically relate social support to various outcome measures. In examining relationships to outcomes, researchers have emphasized either the role of the social environment or the individual's subjective perceptions of being supported. According to Sarason, Sarason, and Pierce (1990a), research interest in the construct of social support began after Cassel (1976) and Cobb (1976) published papers in the medical literature that emphasized the buffering effects of the social environment on stress. Cobb, who investigated social support as a means of moderating stressful life events, provided one of the earliest definitions of social support. In his conceptualization, social support is viewed as information leading to the feeling of being cared for, the belief that one is loved, esteemed, and valued, and the sense of belonging to a reciprocal social network.

Cobb's definition was later clarified by Barrera (1986) who discussed three broad categories of social support including social embeddedness, enacted social support, and perceived social support. However, as social support is not a unitary concept, it has continually been presented according to many different meanings (Sarason et al., 1990a). In fact, research studies following the work of Cassel and Cobb made apparent the need for clear definitions and well-constructed theories. According to Nolten (1994), the successful development of adequate measures of social support has suffered primarily due to the lack of clear definitions of the construct.

In one attempt to address conceptual and methodological concerns in social support research, Tardy (1985) proposed a comprehensive and multidimensional model of social support. In his view, social support may be conceptualized in terms of direction (i.e. given or received), disposition (i.e. available or actually utilized), description and evaluation (where description refers to qualitative aspects of support and evaluation refers to satisfaction with support), content (i.e. type of support), and in terms of the social network, which addresses the specific individuals who either give or receive support, such as family or friends. With respect to content, Tardy drew upon work by House (1981) to conceptualize four types of support. These include emotional, instrumental, informational, and appraisal support. Tardy also termed appraisal support *evaluative feedback*.

Despite Tardy's attempts, the bulk of social support research continues to lack clarity in defining the construct. As well, social support research has not been driven by theory (Sarason et al., 1990a). In an effort to uncover and clarify prevailing theoretical viewpoints, Sarason et al. reviewed the available research and concluded that three main conceptual models appeared to be the most influential. These include support conceptualized as interpersonal connectedness (also termed *social embeddedness*), support conceptualized as specific types and components (also termed *disaggregated social provisions*), and support conceptualized as an individual's felt sense of being supported (also termed *perceived social support*).

Conceptualizing social support as specific types and components places emphasis on the actual resources that are provided by the social environment (i.e. enacted support). Therefore, it appears that social support research studies can roughly be classified

according to one of the three broad categories initially discussed by Barrera as social embeddedness, enacted social support, and perceived social support. As will be discussed next, both social embeddedness and enacted social support emphasize the role of the social environment on outcomes. Perceived social support, however, emphasizes the role of the subjective perceptions of the individual. Next, a summary is provided of the basic assumptions underlying each of these three main conceptual models of social support.

#### *Social Support as Social Embeddedness*

According to Sarason et al., (1990a), conceptualizing social support as social embeddedness or interpersonal connectedness emphasizes external indicators of the social environment that are important for well-being such as the structure of the person's social network. Research studies investigating social embeddedness have typically included an analysis of the size of the social network, the interconnectedness of network members, the degree of involvement in social activities, and/or the diversity of relationships participated in (Cohen, Gottlieb, & Underwood, 2001).

Researchers who adopt this perspective hypothesize that members of the social network impact the emotions, cognitions, and behaviors of other network members through social interaction, in a manner that promotes health and well-being (Cohen, Underwood, & Gottlieb, 2000). Therefore, the social embeddedness perspective of social support places a primary emphasis on the role of social relationships in well-being, not the subjective sense of connectedness experienced. The assumption of this view is that specific characteristics of social relationships are important as the participants in the relationship form shared understandings and pursue goals together (Coyne & Bolger, 1990). This process, termed the "main effect model," promotes well-being by providing

positive social experiences and a routine set of roles within the community (Barrera, 1986; Cohen & Wills, 1985). Cohen, Gottlieb, and Underwood (2001) further indicate that social embeddedness may increase the probability of gaining access to appropriate sources of information through a wide range of network ties. However, according to this perspective, the social interactions between network members are not explicitly intended to exchange help or support. Also, the mere presence of a social network member or social support provider, such as a friend or family member, does not ensure that an individual will perceive that social support is in fact, available if needed.

### *Enacted Social Support*

Neither the availability of support nor the offer of support constitutes support that is enacted. According to House, Umberson, and Landis (1988), social integration and social networks represent the structures of social relationships that impact adjustment, while *enacted* (i.e. actual) social support is the process through which these structures have their effects. This particular perspective also emphasizes the role of the social environment through the specific components and types of social support that are provided or exchanged in response to the needs of others. Therefore, social support, according to this perspective, refers to the social resources that are actually provided (Cohen, Underwood, & Gottlieb, 2000). The process by which enacted social support promotes well-being, termed the “stress-buffering model,” is by protecting the person from the potentially harmful effects of stressful events (Cohen & Wills, 1985) or the potential impact of anticipated stress without a social support network. Presumably, within a supportive social structure, individuals would both give and receive support.

Once provided, however, the perceived adequacy of the provided support is dependent on the individual's needs and how well those needs are addressed.

### *Perceived Social Support*

In contrast to placing an emphasis on the role of the social environment, conceptualizing social support as perceived emphasizes the individual's subjective impressions of support. The importance of perceived social support stems from research comparing reports of support *actually given* by network providers, with reports of support *received* by network recipients that found discrepancies between the two (Antonucci & Israel, 1986). In other words, perceptions of support do not always match the reports of support actually given.

According to Wethington and Kessler (1988), perceived social support is the notion that others will be available if needed. However, there is a difference between perceptions of the support actually given and perceptions concerning the availability of support. One of the difficulties encountered in reviewing research in perceived social support is that typically, researchers have not articulated whether measurement involves the perception of *actual* social support (i.e. frequency, importance of, or satisfaction with the support provided), or whether measurement involves the perception of *available* social support (i.e. whether support is available if needed). Each perspective places an emphasis on the individual's subjective perceptions, but these are conceptually distinct constructs. Therefore, *perceived available support* and *perceived actual support* may be more appropriately considered sub-constructs that are subsumed under the larger rubric of perceived social support.



Researchers have consistently found that the stress buffering effect of social support is more closely linked to the perception that support is *available*, rather than to support actually received (Antonucci & Israel, 1986; Wethington & Kessler, 1988). As noted by Krause (2001), actual support may be viewed by some as an indication of personal failure. Perceived available support, on the other hand, may function as a “social safety net” that encourages risk-taking and personal problem-solving (Wethington & Kessler, 1988), which are behaviors central to feelings of self-efficacy and self-competence. In turn, self-efficacy and self-competence enable individuals to establish relationships and gain further support from others (Wills, 1990). The “stress-buffering model” described earlier, has also been used to describe the manner in which perceived available social support promotes well-being. Specifically, the belief that others are available to help enables an individual to cope and solve problems (Sarason et al., 1990a).

#### *The Social Cognitive Perspective of Perceived Available Social Support*

One explanation for how perceived available social support influences outcome measures concerns the process of cognitive appraisal (Sarason et al., 1990a). An appraisal involves making judgments concerning the extent to which an event is threatening and an evaluation of the resources available to cope with the event (Lahey & Cohen, 2000). According to Cohen and Hoberman (1983), perceived available support reduces the negative effects of stress by contributing to less negative appraisals. For example, rather than specific characteristics of a stressful event, researchers found that the personal experience of stress was based on one’s appraisal of the degree of a situation’s threat, and the resources available to deal with it, personal and otherwise (Lazarus & Launier, 1978).

Lakey and Cohen (2000) argued that social support is a social construction and that individuals may differ with respect to what constitutes support. Specifically, an individual develops theories and ways of thinking about the social world that reflect that particular individual's social context. An important assumption of this perspective is that once an individual develops stable and consistent beliefs concerning the supportiveness of important others, broader, more global views about the social world are shaped to fit those beliefs.

Sarason et al. (1990a) also stressed the importance of considering both the intrapersonal and the interpersonal contexts in which support becomes available. Sarason et al. describe the interpersonal context as the observable features of relationships (with which one may or may not be satisfied), while the intrapersonal context refers to one's stable and individualistic way of perceiving relationships (as potentially supportive or meaningful due to connections). This description of the intrapersonal context is based on the notion of cognitive schemas of the self and important others (such as family members) that stem from theories concerning social cognitive thought (Lakey & Cassady, 1990; Lakey & Cohen, 2000; Sarason et al., 1990a).

The main hypothesis of the social cognitive perspective of perceived social support is that perceptions of support can generalize to new relationships (Lakey & Dickinson, 1994). This perspective has, therefore, sparked an interest in the influence of early developmental experiences on later perceptions of social support. Blain, Thompson, and Whiffen (1993) hypothesized that internal working models (i.e. cognitive schemas) based on early attachment experiences, serve as the method by which attachment style influences perceptions and beliefs about the self and others. Internal working models of

attachment, first proposed by Bowlby (1973), have been described as the cognitive structures that help one to anticipate the availability and responsiveness (i.e. supportiveness) of others (Blain et al., 1993). In particular, negative thoughts about social experiences and relationships converge with and activate negative thoughts about the self in a process resulting in emotional distress (Baldwin & Holmes, 1987). In other words, self-concept is thought to mediate the relationship between perceived support and well-being.

Though additional research is needed with younger samples, the available evidence suggests that early attachment experiences and perceptions of the family environment may influence perceived social support in new relationships and new contexts. For example, in a two year longitudinal study using an urban sample of African-American children, Anan and Barnett (1999) found that attachment style at age 4 uniquely predicted perceptions of social support from parents, peers, and teachers at age 6. Also, children with higher perceptions of social support were more likely to interpret ambiguous social situations as pro-social rather than aggressive. The relationship between perceived social support and the interpretation of ambiguous social situations has also been demonstrated in college samples (e.g. Lakey & Cassady, 1990). Lakey and Dickinson (1994) tested the hypothesis that perceptions of family support generalize to new social relationships in new environments. In a longitudinal study involving first-semester college freshmen, these researchers found that negative perceptions of the family environment at the start of the semester predicted low perceived support in the new environment by the end of the semester. Moreover, variables measuring

psychological distress, social competence, and the number of new friendships developed in college were not found to moderate these results.

### *Children's Perceptions of Social Support*

Researchers hypothesize that enacted social support may act as a protective factor for children by preventing the occurrence of stressful events, moderating the negative effects of stress on psychological adjustment variables, and by directly strengthening psychological adjustment variables (Sandler, Miller, Short, & Wolchick, 1989). Sandler et al. propose that enacted social support enhances children's self-esteem, perceptions of control, and perceptions of the security of social relationships and that these perceptions act as intervening variables promoting children's psychological adjustment. Several investigations have documented the relationship of perceived social support for children's and adolescent's adjustment and well-being. For example, children and adolescents with high levels of perceived actual or perceived available social support have been found to have fewer adjustment problems (Hirsch, 1985).

Also, higher levels of perceived actual or perceived available social support have been linked to more positive outcomes for various populations of children including children of divorce and children with learning disabilities (Cowen, Pedro-Carroll, & Alpert-Gillis, 1990; Wenz-Gross & Siperstein, 1997). On the other hand, low perceptions of actual or available social support have been found to be a risk factor in a number of areas including peer bullying and victimization (e.g. Furlong, Chung, Bates, & Morrison, 1995). Those with low perceptions of actual or available support may lack positive alternatives for solving problems or conflicts than those with high perceptions of actual or available support (Malecki & Demaray, 2003).

*Perceived Social Support from Peers.* Children are embedded in a broad social ecology that includes relationships with multiple individuals across multiple contexts. Therefore, children's perceptions of support may vary with the individual provider of support and the context in which support is provided. Furman and Buhrmester (1985), who investigated children's perceptions of their relationships with various individuals, such as parents, grandparents, siblings, and peers, found that children reported receiving different types of support from different sources. However, the children reported receiving at least some amount of each type of support investigated (such as emotional, instrumental, or companionship support) from each source. Not surprisingly, parents were found to be the greatest source of emotional and instrumental support. Peers, on the other hand, were reported as the greatest sources of companionship support. Also, children reported having more relative power in their relationships with peers.

Harter (1987) found that perceived available support from classroom peers and parents was more predictive of self-worth than support from teachers and friends. However, other studies have found perceived actual peer social support to be linked to many indicators of adjustment beyond children's perceptions of actual support from parents and other adults (e.g. Demaray & Malecki, 2002). Particularly for children who experience difficult relationships with parents, perceived actual or available peer social support may be especially important. Ezzell, Swenson, and Brondino (2000) found that for children who had been abused by their parents, support from peers was the only source of support found to be significantly and negatively related to internalizing problems, although the children rated teachers, parents, and peers all highly as sources of support.

There is also some evidence that children's lack of perceived actual or available support in one context may be compensated for by support in another (e.g. East & Rock, 1992). However, additional research is needed to determine whether peer support in particular may be compensatory for children with low levels of perceived support from other sources. For elementary school children who typically spend the school year with the same classmates and teacher, perceived peer support in the classroom may play a more significant role in adjustment than peer support for older children.

### *Purpose of the Study*

Current conceptual models of social support can be generally described in terms of emphasizing either the role of the social environment or the role of the individual perceiver in well-being and adjustment. According to the social-cognitive perspective of perceived social support, an individual's cognitive schemas of social relationships will generalize to new social relationships and environments (Lakey & Dickinson, 1994). As well, cognitive social schemas may converge with and activate thoughts about the self (Baldwin & Holmes, 1987) in a process that impacts well-being. More recently, Lakey et al. (1996) proposed an interactional model of perceived social support wherein perceptions of social support stem from the interaction that occurs between the person and the environment. This perspective predicts that one's subjective perceptions of support are dependent upon the match between the individual perceiver and the potential provider of support. In other words, the interactional model emphasizes the importance of social relationships (i.e. social embeddedness) on one's subjective perceptions that in turn, impact well-being. Given the paucity of research in this area, Lakey et al. argued that social support research should investigate the extent to which perceived social

support is a function of the individual perceiver, the social environment, or the match between the individual perceiver and potential provider of support.

However, social support research has not sufficiently addressed whether well-being is more closely tied to one's subjective perceptions of support, aspects of the social environment, or possibly from the interaction that occurs between the individual and the environment. For example, it may be that it is the congruence between the perspective of the individual and the potential provider(s) of support that is most important in well-being. The primary purpose of this study was to investigate whether children's adjustment is more closely linked to their individual perceptions (of themselves and of the supportiveness of others), the supportiveness of the classroom social environment, or the congruence (i.e. "match") between the perspectives of the individual perceiver and the potential providers of support in a culturally and racially diverse group of young elementary school children.

Finally, the majority of published measures of perceived social support in children assess perceptions of support from a variety of individuals and across a wide variety of contexts. Also, the types of support assessed tend to parallel the types of support assessed in the adult literature including emotional support, social integration support, appraisal support, and instrumental support (Cutrona & Russell, 1990). However, existing studies of children's perceptions of support have not investigated the types of support children might perceive as being available solely within the context of the classroom. Therefore, the current study also includes an investigation of how children conceptualize support within the context of the classroom. Specifically, qualitative interview techniques were

used to investigate the *types* of support children describe when asked about giving and receiving help in the elementary school classroom.

### *Social Support in the Current Study*

Though the available research demonstrates the importance of documenting children's perceptions of social support, there are very few published measures of perceived social support for children. Studies investigating children's perceptions of social support have generally relied on interview, dialogue, or questionnaire formats (e.g. Frankel, 1990; Wenz-Gross & Siperstein, 1997). Also, most measures for children have been designed to investigate children's perceptions of support across a variety of contexts. As such, there are no published measures that gauge the support that children may perceive and offer to one another in the context of the classroom. The current study is distinct in its use of a sociometric nomination procedure where children identified classroom peers, without limits on the number, on items measuring perceptions of available classroom peer support.

Nomination items were created to measure perceptions of support from the perspective of the individual child as *perceived available peer social support*; from the perspective of the child's classroom peers as *available peer social support*; and in terms of the congruence between the perspectives of the individual child and classroom peers as measured by mutual friendships and by the match between nominations given for perceived available peer social support and those received for available peer social support. Sociometric nomination procedures have been used to measure a wide variety of children's social experiences. To date, however, children's perceptions of support have not been measured through the use of sociometric nominations. Therefore, this study is in



part a measurement study given the exploratory nature of this particular use of sociometric nominations. As part of the preliminary analyses, analyses of the sociometric nomination measures are included.

The use of sociometric nominations in the current study allows several components of Tardy's model of social support to be investigated (1985). With respect to disposition, perceived available social support from classroom peers was investigated through an analysis of nominations *given* by each individual child of classroom peers perceived to be available sources of support. Conversely, available social support from classroom peers was investigated through an analysis of nominations *received* by each individual child for the potential receipt of support from classroom peers (i.e. nominations received from peers for the item "kids you would help"). With respect to content, the nomination items tapped social-emotional support and general helping in the classroom, while the social network members are specified as elementary school classroom peers. In addition, a qualitative measure was used to analyze children's descriptions of social support in the classroom.

This study utilized a longitudinal study design in which children participated in individual interviews where they were asked to complete a sociometric rating and nomination procedure, measures of emotion and self-concept, and a qualitative measure to gauge understanding of support. Data collection occurred initially in the fall, and all measures were administered again in the spring of the 2002-2003 school year. At both times, teachers of participating classrooms completed behavior rating scales for each study participant. To allow for the development and stabilization of classroom social relationships, statistical analyses involved the data collected at the end of the year in

order to address the primary research questions. Next, a summary is provided of the primary constructs under study in the current investigation.

*Individual Perceptions of the Self and of the Supportiveness of Others: Self-Concept and Perceived Available Peer Social Support*

Children's individual perceptions of themselves and of available peer social support were examined using a self-report measure of self-concept and sociometric nomination techniques to measure perceived available peer social support in the classroom. These constructs are summarized next.

*Self-Concept.* Self-concept is the perception of the self as having either desirable or undesirable qualities (Harter, 1985a). Given the subjective nature of perceived social support, it was deemed important to further examine children's self-perceptions in terms of their self-concept. Social-cognitive theories tend to place self-concept as a mediator between perceived social support and well-being (Baldwin & Holmes, 1987) and perceived social support is typically conceptualized as a predictor of self-concept (e.g. Harter, 1987; Demaray & Malecki, 2002). It is important to note, however, that self-concept has both affectional and cognitive elements (Swann, Chang-Schneider, & McClarty, 2007). Recently, Moran and DuBois (2002) found that perceived social support makes a contribution to adjustment outcomes that is distinct from self-concept. Therefore, in the current study, both self-concept and perceived social support are treated as social-cognitive variables that predict adjustment. Children's individual perceptions of themselves were measured using the global self-worth scale of Harter's Self-Perception Profile for Children (1985), a self-report inventory designed to measure elementary school children's self-perceptions.

*Perceived Available Peer Social Support.* As a measure of perceived available peer social support, the children in this study were asked to identify an unlimited number of classroom peers that they believe would help them, or that they would seek help from, on several items pertaining to various aspects of social support from peers within the classroom context. For each item, perceived available social support was measured in terms of the proportion of nominations given by each study participant out of the number of children in the class. Based on the scores for each item, an overall average perceived available social support score was computed.

*Available Peer Support in the Classroom: Peer Acceptance and Available Peer Social Support*

The support available in the classroom environment was examined using sociometric ratings to determine levels of peer acceptance and sociometric nominations to determine available classroom peer social support. These constructs are summarized next.

*Peer Acceptance.* Peer acceptance reflects the perspective of the larger peer group in terms of the degree to which children are liked (Gifford-Smith & Brownell, 2003). Peer acceptance has been investigated widely in the school environment, and is primarily regarded as an indicator of social competence. In general, children who are accepted by their peers appear to possess skills in establishing positive peer relationships while neglected children have been found to engage in much less social interaction (Rubin et al., 1999). However, very little research has been conducted concerning the relationship between peer acceptance and perceived social support, although both peer acceptance and

perceived social support have been linked to indices of adjustment and self-concept for children of all ages.

In one of the few studies examining links between the two constructs, East, Hess, and Lerner (1987) found that those rated low in peer acceptance perceived much less available social support from peers than those rated high in peer acceptance. The link between peer acceptance and perceived peer support may be clarified by examining these constructs in relation to mutual friendship since mutual friendship has also been linked to peer acceptance. For example, in a prior investigation that examined gender differences in peer acceptance, reciprocal nominations for friendship and support, and expectations for reciprocity in support (Lanier, unpublished), boys and girls did not differ on ratings of peer acceptance. The majority of children were generally accepted by peers of both genders, although both boys and girls consistently rated their own gender higher. In any case, for all children, peer acceptance was significantly and positively correlated with both the number and proportion of reciprocal nominations for friendship. Therefore, children who are not well liked are less likely to have mutual friends which may lead to lower levels of perceived peer support.

As explained by Dodge et al. (2003), difficulties in peer relationships may hinder children from learning necessary social skills since peer relationships provide the context for social learning. As well, the absence of friendly peers may leave an individual in a state of isolation without important avenues for social support (Hazler, 2000). However, poor social skills may also lead to limitations in eliciting social support and to low peer acceptance. In the current investigation, peer acceptance was measured using a roster and rating procedure where children rated each classmate on a scale of “liking,” which

allowed an overall level of acceptance to be calculated for every child. (Specifically, peers were rated in terms of how much each peer is liked on a scale of 1 to 3.

*Available Peer Social Support.* As part of the sociometric nomination procedure, the participating children were asked to nominate an unlimited number of classroom peers that they *would help*. By investigating the proportion of nominations each participant *received* from classroom peers participating in the study who said they were willing to help that particular child, it was possible to evaluate the extent to which support was *available* in the classroom for each study participant.

In the prior investigation referenced previously, children's expectations for reciprocity in support were examined by comparing the number of consistent nominations for items measuring giving support and friendship (i.e. did they say they would help those they considered friends); giving support and receiving support (i.e. did they say they would help those whom they believed would help them), and giving support and seeking support (i.e. did they say they would help those they would seek out for help). The results of this study indicated that a large proportion of children's nominations for giving support were inconsistent with their nominations of peers for friendship, receiving support, or seeking support. Therefore, children's willingness to help their peers was not constrained by notions of friendship or expectations for reciprocity in support. This suggests that peer support is available in the classroom environment beyond the boundaries of friendship.

As described in the current study, available social support represents a new construct that has not been previously explored as part of the social support paradigm. Measuring support that is reportedly available is distinct from measuring support actually

provided. Specifically, in the current investigation, participating children were asked to identify whom they *would* help, not whom they *actually* helped.

*The Congruence between the Perspective of the Individual and of the Potential Providers of Support: Mutual Friendship and the Match between Perceived Available Peer Social Support and Available Peer Social Support*

*Mutual Friendship.* Mutual friendship often serves as the primary peer context for the receipt and provision of many aspects of social support. For example, in addition to companionship, friendship provides the opportunity to obtain instrumental support, protection, and emotionally supportive experiences such as acceptance, closeness, and intimacy (Bukowski & Sippola, 2005). In the current investigation, mutual friendship was explored by examining the match across nominations between the nominator and nominee for classroom peers identified as *good friends*. Therefore, mutual friendships are conceptualized here as a measure of the congruence between children's individual perceptions and those of their peers. Mutual friendships were determined in terms of the number of reciprocal friendship nominations as well as the proportion of friendship nominations reciprocated amongst those participating in the study. The proportions of mutual friendships, as the number of reciprocal friendships out of those possible, is considered an estimate of the accuracy of children's perceptions. Specifically, the proportion of reciprocated nominations reflects the extent to which the child's nominations were reciprocated by peers.

Sociometric techniques are the most commonly used procedures for identifying mutual friends (Gifford-Smith & Brownell, 2002). In the prior study noted previously, gender differences did not emerge in the actual support children experienced as measured

by reciprocal nominations for friendship. However, for all children, social support was found to build across the school year as the number of reciprocal nominations increased over time. The importance of friendship has been demonstrated in numerous studies, as children with mutual friendships have been found to have better social competence and to be better adjusted (Gifford-Smith & Brownell, 2003). Friendship has also been found to moderate the relationship between social skills deficits and victimization (Fox & Boulton, 2006). According to Bukowski (2002), friendship functions to inform individuals of their value and acts as a buffer against the negative effects of stress. Given this description of the function of friendship, the parallels between friendship and definitions of social support are obvious. Bukowski also described two additional functions of friendship. Specifically, children's friendships encourage exploration and skill acquisition, and influence behavior by forming behavioral standards, goals, and expectations. As discussed by Gifford-Smith and Brownell, friendship is distinct from peer acceptance, although the skills underlying peer acceptance may also be important in establishing friendships with others.

*The Match between Perceived Available Peer Social Support and Available Peer Social Support.*

Shumaker and Brownell (1984) argued that social support is an exchange process based on the perceptions of at least two participants. Therefore, the congruence of perspectives is important as the same individuals and behaviors may be viewed differently by different persons (Lakey et al., 1996). As explained by Shumaker and Brownell, perceptions of support may be optimal in situations where both the provider and recipient perceive an exchange as supportive. Shumaker and Brownell also argued

that the degree of congruence between the perceptions of those involved in an exchange of support may have important implications for the quality and effects of support. Though the current investigation does not involve perceptions of actual support, it follows that the congruence between perspectives regarding the *availability* and *perceived availability* of support may also be important.

In the current investigation, the match between perceived available peer social support and available support from peers was explored by examining the match between nominations given by each study participant of peers that the individual child believed *would help them* or that they *would seek help from*, and those received from peers who nominated the individual child as one that *they would help*. The match was determined in terms of the number of matched nominations as well as the proportion of matches. Therefore, in addition to mutual friendships, this particular variable offers an additional means of measuring the congruence between children's individual perceptions of support and those of their peers. The proportions of matches, as the number of matches out of those possible, are considered an estimate of the accuracy of children's perceptions regarding the availability of support.

*Adjustment Outcomes: Teacher-Rated Emotional, Behavioral, and School Problems, and Self-Rated Negative Emotions*

In the current study, adjustment refers to the child's ability to adapt or cope with the demands of his or her environment. Various aspects of children's emotional, behavioral, and school adjustment were measured to provide a diverse span of adjustment outcomes. Participating children were asked to provide self-ratings of emotion including anger, depression, and anxiety. Teachers of participating classrooms also provided ratings



of the children's emotional, behavioral, and school adjustment including externalizing behavior, internalizing behavior, and school problems. The variety of emotional and behavioral adjustment indicators allowed for an investigation of the relative contributions of children's individual perceptions and peer relationship indicators on their overall adjustment.

### *Children's Understanding of Social Support in the Classroom*

As the focus of this investigation concerns children's perceptions of support within the classroom context, qualitative interview techniques were used to gauge children's understanding and conceptualization of social support in the classroom. The children in this study participated in open-ended interview questions concerning the types of support that they had given and received from their classmates. These responses were transcribed and coded according to the type of support described. All measures in the current study were administered during individual interviews conducted at both the beginning and end of the school year where children were engaged in several activities concerning their classroom friendships. The primary research questions are presented next. As stated previously, the primary research questions were addressed using data collected at the end of the year.

### *Research Questions*

1. Is children's adjustment more closely linked to individual perceptions (of the self and of the support available from peers), the support available from classroom peers, or to the congruence (i.e. "match") between the perspectives of the individual child and the potential providers of peer support in the classroom?

2. How do children understand and conceptualize social support within the context of the classroom?

### *Definitions of Terms*

Several terms central to understanding the variables in this study are presented and defined next.

*Adjustment.* In the current study, adjustment refers to a child's ability to adapt or cope with the demands of his or her environment as measured by indicators of emotional, behavioral, and learning problems.

*Available Social Support.* Available social support refers to the reported willingness of individuals to help certain others within a specific social context. As indicated earlier, available social support represents a new construct that has not been previously articulated in the social support literature.

*Peer Acceptance.* Peer acceptance refers to the extent to which children are liked by children in their peer group (Gifford-Smith & Brownell, 2002). In the current investigation, peer acceptance is evaluated within the context of the elementary school classroom.

*Perceived Available Social Support.* Perceived available social support is the notion that others will be available if needed (Wethington and Kessler, 1988).

*Self-Concept.* Self-concept is the perception of the self as having either desirable or undesirable qualities (Harter, 1985a).

*Social Support.* More broadly, social support refers to information leading to the feeling of being cared for, the belief that one is loved, esteemed, and valued, and the sense of belonging to a reciprocal social network (Cobb, 1976).

## CHAPTER 2

### Review of the Literature: Social Support in the Classroom

Social support is generally regarded as a resource provided by the environment. However, it may be the subjective perception of support that is the active ingredient linking social support with other variables. Therefore, understanding an individual's subjective perceptions must involve understanding characteristics of the perceiver as well as aspects of the social environment (Rohrle & Sommer, 1994).

This chapter will begin with a review of existing published measures of perceived social support for children. Next, a review is provided of the literature concerning perceived social support for children, peer acceptance, and friendship in children's social development in order to better understand the relationship between children's subjective perceptions of social support and peer relations in the classroom. The chapter concludes with a discussion of important contextual factors to consider in children's classroom peer relationships.

#### *Children's Perceptions of Social Support*

##### *Measuring Perceived Social Support in Children*

As mentioned earlier, very few published measures of perceived social support have been designed for children. Most studies on children's support networks have been conducted with adolescents, in part due to the relative ease of constructing measures for older populations (Cauce, Reid, Landesman, & Gonzales, 1990). Social support perceptions in younger children have typically been assessed using interview, dialogue, or self-report questionnaire formats (e.g. Frankel, 1990; Wenz-Gross & Siperstein, 1997).

One of the limitations in assessing children's perceptions is that young children are often limited in their ability to engage in reflective thought. It has been argued then, that children's perceptions of actual and available social support may not be well grounded in their everyday experiences (Rizzo & Corsaro, 1995). Reviewing the literature on children's perceptions of support is further complicated by the fact that researchers have rarely distinguished measurement of perceptions of *actual* support from measurement of perceptions of *available* support. Further, the wide variety of techniques used to measure children's perceptions makes it difficult to compare findings across studies. Therefore, several existing published measures of perceived social support for children will be reviewed to provide clarification of the construct. For each measure discussed, the item wording of the measures was first reviewed to determine which aspect of support was being measured. Measures were classified as assessing perceptions of actual support if the items primarily measured how often support is provided. In contrast, measures were classified as assessing perceptions of available support if items primarily measured whether support is available. Table 1 provides a list of the measures reviewed including the type of support measured, sample items, and classification of item measurement.

Table 1

*Published Measures of Social Support for Children and Adolescents - Classification of Item Measurement into Perceived Available or Perceived Actual Support*

Measure	Support Type	Sample Item	Classification
Social Support Scale for Children (Harter, 1985a)	Emotional	“Some kids have a close friend who really understands them but other kids don’t have a friend who understands them.” (Child selects which is “really true for me” or “sort of true for me”)	Perceived Available Support
The Classroom Life Instrument – peer and teacher personal and academic subscales (Johnson & Johnson, 1983)	Emotional	“In this class other students care about my feelings.” (Child rates how true the statement is on a Likert-type scale.)	Perceived Available Support
Child and Adolescent Social Support Scale (Malecki et al., 1999)	Emotional Informational Appraisal Instrumental	“My friend gives me advice” (Child rates item on frequency and importance)	Perceived Actual Support
Student Social Support Scale (Nolten, 1994)	Emotional Informational Appraisal Instrumental	“My teacher makes it okay to ask questions” (Child rates item on frequency and importance).	Perceived Actual Support

Table 1 (continued)

Measure	Support Type	Sample Item	Classification
Perceived Social Support from Family and Friends Scale (Procidano & Heller, 1983)	Emotional	“My friends are good at helping me solve problems” (Child selects between “yes”, “no”, and “don’t know”).	Perceived Available Support
My Family and Friends (Reid et al., 1999)	Emotional Informational Instrumental Companionship	“When you want to share your feelings which person do you go to most often? (Child places a name card on ranking board and rates satisfaction of support using a barometer prop.)	Perceived Actual Support

*The Social Support Scale for Children (SSSC; Harter, 1985a)*. Until more recently, the Social Support Scale for Children was the only published scale in existence for children. The SSSC is designed for elementary and middle school children in grades 3-8. This instrument is made up of four subscales that measure perceived available social support in the form of positive regard from parents, teachers, classmates, and friends. Each subscale is composed of 6 items that measure several dimensions of emotional support provided by each respective source. Using a sample of predominantly Caucasian participants from lower to upper middle class neighborhoods, Harter was able to establish acceptable internal consistency for the SSSC. Based on Cronbach's alpha, internal consistency reliabilities for the parent and teacher subscales were found to be between .78 and .88 while those for the classmate and friend subscales were found to be between .72 and .83. In addition, an oblique factor rotation was used to determine the factor structure of the SSSC.

In elementary school samples, a three-factor structure emerged including parent and teacher as two of the factors, while the classmate and friend subscales combined to form the third factor. However, in middle school samples, all four factors were evident including parent, teacher, classmate, and friend. In addition to face validity, Harter was able to establish concurrent validity based on moderate and significant correlations between the four subscales of the SSSC and Harter's Self-Perception Profile for Children (SPPC; Harter, 1985b). The four subscales of the SSSC were found to correlate between .28 to .49 with the global self-worth scale of the SPPC indicating a positive link between perceptions of available social support and appraisals of the self.

There are several limitations of Harter's SSSC. Reliable measurement of perceived available social support in more diverse samples of children has not been established. In addition, the SSSC is formatted to have children read two statements and then decide which statement is most like them. Children are then asked to decide if the statement is "really true" or "sort of true" for them. Though the purpose of this procedure is to reduce social desirability, some have described this format as confusing and awkward (i.e. Malecki & Demaray, 2002).

*The Classroom Life Instrument (Johnson, Johnson, & Anderson, 1983).* The Classroom Life Instrument was designed to assess elementary school children's attitudes towards social interdependence and perceived available support from teachers and peers in the classroom context. The measure consists of 67 items and requires children to indicate how true or false the items are using a five-point Likert-type scale. Factor analysis and varimax rotation were used to determine the factor structure of the measure. Several subscales make up The Classroom Life Instrument including cooperative learning, positive goal interdependence (i.e. working together on an assignment), resource interdependence (i.e. sharing materials), competitive learning, individualistic learning, teacher academic support, teacher personal support, student academic support, student personal support, class cohesion, working with heterogeneous peers, fairness of grading, and achieving for social approval. Based on Cronbach's alpha, internal consistency reliabilities for the subscales were found to be between .51 and .83.

Johnson et al. conducted a study using 883 students in grades 4 through 8 from several different school districts from the East, Midwest, and Mountain states to investigate the relationship between cooperative work experiences, children's attitudes



towards cooperation in the classroom, and children's perceptions of available support from teachers and peers. The sample was composed of approximately 410 males, 448 females, 773 Caucasian students, and 110 minority students. The children completed the Classroom Life Instrument and also indicated on a five-point scale the amount of time their teachers utilized cooperative learning techniques in their classes. According to the study results, positive attitudes towards cooperative learning and a greater frequency of cooperative work experiences were positively related to perceived available academic and personal support from teachers and peers. Students who reported frequently participating in cooperative work experiences reported more cohesion within their classrooms. The results of the study also found that children who value cooperative work experiences also tend to value and enjoy working with peers of diverse backgrounds. The study findings are consistent with prior research findings that demonstrate a positive link between cooperative learning experiences and positive classroom relationships (e.g. Johnson, Johnson, & Tauer, 1979).

Though the current study did not assess the use of cooperative work techniques in the classrooms, the results of the studies conducted by Johnson et al. suggest that the use of cooperative work groups or other instructional techniques may influence children's perceptions of support from teachers as well as peers through the structuring of activities within the classroom that encourage cooperation and interdependence. Therefore, a more thorough assessment of children's perceptions of support in the classroom might include an assessment of instructional techniques or other variables that directly influence children's social interactions with their classroom peers.

*My Family and Friends* (Reid, Landesman, & Treder, 1989). Using an interview dialogue format, Reid, Landesman, and Treder developed *My Family and Friends* as a way to measure children's *subjective impressions of actual social support* (i.e. *perceived actual support*). The measure includes props such as cards with names, drawings or photographs of all individuals in the child's social network, a wooden ranking board into which cards are inserted, and a large cutout barometer with labels and a moving level indicator. In a ranking task, the child uses the cards and the ranking board to indicate the order in which he or she goes to each person for a given type of support. The barometer is used to express relative levels of satisfaction with the type of support received. Specific interview dialogues are used that focus on various aspects of support including emotional, informational, instrumental, companionship, as well as conflict.

Reid et al. (1989) investigated the psychometric properties of "My Family and Friends" with a sample of 249 participants, ages 6-12. Approximately 43% of the sample were boys, 57% were girls. The majority of the sample (82%) was Caucasian and 18% were African American. In addition, 50% were from single-parent families headed by mothers, 50% were from two-parent families. Families were part of the University of Washington Family Behavior Study such that children's scores on the Peabody Picture Vocabulary Test and WISC-R were available. Internal consistency reliability for the four areas of social support (emotional, informational, instrumental, companionship) ranged from .28 to .92 with an overall mean of .72. Also, children's reports of their perceptions of actual social support had acceptable test-retest reliability and alpha coefficients. Intraclass correlation coefficients for rankings and ratings revealed a median test-retest reliability of .68 for rankings and .69 for ratings.

One interesting finding in this study is that a small portion of children was highly variable in their reported perceptions of social support. Though there were no differences in these children with respect to age, sex, or intelligence scores, a review of examiners' notes revealed that 85% of these children were from families described as experiencing stress or upheaval. One limitation illustrated by these findings is that children's reports of actual social support may be extremely variable in stressful family situations. Also, as the study used a sample of predominately Caucasian families from middle to upper middle class neighborhoods, the results cannot be generalized to other populations.

*Perceived Social Support – Family and Friends (Procidano & Heller, 1983).*

Procidano and Heller developed a measure to tap *perceptions of available emotional support* from family and from friends. Three studies were conducted to provide evidence of concurrent and predictive validity for the measure resulting in the Perceived Social Support – Family and Friends (PSS-Fa, PSS-Fr) scale. The instrument was designed to measure the extent to which an individual perceives that family and friends are available to provide needed support, information, and feedback, and consists of 20 items each for family and friends with three possible responses: yes, no, don't know. A total of 222 undergraduate students with a mean age of 19 participated in the validation studies. Students completed the PSS-Fa and PSS-Fr along with multiple inventories measuring distress, social competence, and psychopathology.

Internal consistency was found to be .95 for PSS-Fa both at time 1 and time 2. For the PSS-Fr, internal consistency was found to be .87 at time 1 and .90 at time 2. Also, scores on both the PSS-Fr and PSS-Fa were significantly and negatively related to psychopathology. One obvious limitation of this measure with respect to use for younger

populations is that the validation sample consisted exclusively of undergraduate college students. In addition, information was not available with respect to gender and ethnicity of the sample. Though this measure has been used with adolescent populations, it is not known whether the psychometric properties hold for younger children.

*The Student Social Support Scale (SSSS; Nolten, 1994).* In order to address limitations in the measurement of perceived social support in children, the Student Social Support Scale was developed by Nolten. This is a 60-item scale designed to measure children's perceptions of positive attitudes and behaviors from significant others. Based on the work of Tardy (1985) described previously, the SSSS measures emotional, appraisal, informational, and instrumental *perceived actual social support* from parents, teachers, classmates, and a close friend. Using a Likert-type scale, children are asked to rate items on frequency and importance. Nolten established reliability and validity of the SSSS using a sample of 298 children in grades 3-8. Participants included children from schools located in Wisconsin, Massachusetts, and Washington, D.C. Approximately 75% of the sample was Caucasian, 10% African American, 3% Hispanic, 4% Asian, and 4% Native American.

Based on Cronbach's alpha, internal consistency for the total scale of the SSSS was found to be .97 while coefficient alphas for the subscales ranged from .92 to .95. The SSSS was also found to be extremely reliable over a four-month period. For the full scale, test-retest reliability was found to be .75 while subscale reliabilities ranged from .63 to .74. As well, factor analyses of the SSSS revealed four factors including parent, teacher, classmate, and close friend. Finally, convergent validity of the SSSS was established between the SSSS and Harter's Social Support Scale for Children (SSSC;

1985a) based on significant moderate to strong correlations between the scales. Correlations ranged from .50 to .67 for each subscale of the SSSS and each corresponding subscale of the SSSC (i.e. parent, teacher, classmate, and close friend). Though the SSSS has been found to demonstrate strong properties of reliability and validity, several limitations have been voiced. For example, the SSSS has been described as lengthy and time consuming as the scale takes approximately 25 minutes to administer (Malecki & Demaray, 2002). Additionally, Nolten recommended additional studies utilizing larger, more representative samples in terms of ethnicity and grade level to establish further validity of this scale.

This initial version of Nolten's scale was unpublished. However, a subsequent investigation sought to further investigate the reliability and validity of the SSSS that in turn, led to a revision and publication of a new scale (i.e. The Child and Adolescent Social Support Scale, CASSS; Malecki et al., 1999, discussed later in this review). Malecki and Elliott (1999) sought to investigate the reliability and validity of the Student Social Support Scale (SSSS; Nolten, 1994) in the measurement of *perceived actual social support* for adolescents. The study included a gender-balanced sample of 198 children in grades 7 through 12 enrolled in one rural and one large urban school district in Western Illinois. Approximately 87% of the sample was Caucasian while 13% of the sample was minority.

Though the SSSS was designed for students in grades 3-8, the authors found the SSSS to be highly reliable with an older, adolescent sample. Internal consistency for all items of the SSSS was .96 while subscale reliabilities ranged from .92 to .95. Subscale alphas for both males and females ranged from .88 to .96. In addition, using a subsample,

test-retest reliability correlations were .55 on the total scale while correlations for subscales ranged from .28 to .80. Finally, results of factor analyses provided strong support for a four-factor scale consisting of parent, teacher, classmate, and close friend as sources of support.

Concurrent validity of the SSSS was investigated using measures of social skills, self-concept, and academic performance. In addition to the SSSS, students in this investigation completed the student form of the Social Skills Rating System (SSRS; Gresham & Elliott, 1990) and the Student Self-Concept Scale (SSCS; Gresham, Elliott, & Evans-Fernandez, 1993). Academic performance was measured by assessing each student's grade point average in his or her core classes. Analyses of the data indicated small but significant correlations between perceived actual social support and grade point average. Concurrent validity of the SSSS was established with moderate and significant correlations with the SSRS ranging from .46 to .59 on the parent, teacher, classmate, and close friend subscale. These results suggest that self-ratings of adolescents' social skills are related to their perceptions of actual social support. As explained by the authors, those with better social skills may be more adept at acquiring social support from others (Malecki & Elliott, 1999). Also, correlations between the SSSS and the SSCS were moderate to high and significant, revealing a similar relationship between adolescents' self-ratings of self-concept and their perceptions of actual social support. In other words, greater perceived actual social support is related to better self-concept.

Malecki and Elliott also sought to investigate the sensitivity of the SSSS in measuring gender, age, and ethnic differences in perceived actual social support. Some evidence of gender and age differences emerged. Specifically, the total score of perceived

actual social support was significantly higher for females than for males. Also, female students reported significantly higher levels of actual social support than males from classmates and close friends. ANOVA results indicated statistically significant differences among grade levels on perceived actual total support, parent support, teacher support, and classmate support. Perceived actual social support as reported by younger adolescents in 7<sup>th</sup> and 8<sup>th</sup> grade was significantly higher than for older adolescents in 11<sup>th</sup> and 12<sup>th</sup> grade. Finally, results from this study revealed no significant differences between minority students' and Caucasian students' ratings of perceived actual social support. This last finding should be interpreted with caution, however, as the study sample consisted of a small percentage of minority students. The authors also discussed the limitation of the study sample with respect to disability status, as this information was not included.

*The Child and Adolescent Student Social Support Scale (CASSS; Malecki et al., 1999).* The SSSS (Nolten, 1994) was revised and refined to create the Child and Adolescent Student Social Support Scale (CASSS; Malecki et al., 1999). The original 60 items of the SSSS were reduced to a total of 40 self-report items to measure perceived social support from parents, teachers, classmates, and friends. The CASSS retained the structure of the original scale with respect to measuring the frequency and importance of support. In addition, the CASSS was created in two versions: Level 1 of the scale was created to measure *perceived actual social support* in children from grades 3-6, while Level 2 was created to measure perceived actual social support in children from grades 6-12. Each level contains a total of 40 items with considerable overlap between levels in item content and structure.

Evidence of reliability and validity of the CASSS was provided in a study by Malecki and Demaray (2002). This study utilized a gender-balanced sample of 1,110 students in grades 3-12 from schools in Massachusetts, Wisconsin, Minnesota, Illinois, and Nebraska. A total of 353 students were from elementary schools and 757 were from middle or high schools. Caucasian students made up 62% of the sample while 38% were minority. In addition, 13% of study participants had identified disabilities, though disability information was unavailable for approximately half of the study sample. For Level 1, internal consistency reliability was .94 for the total scale and ranged from .87 to .93 on the subscales. For Level 2, internal consistency reliability was .95 for the total scale while subscale reliabilities ranged from .89 to .94. Confirmatory factor analysis also supported the presence of four factors including parent, teacher, classmate, and close friend.

Construct validity was provided by significant and moderate correlations ranging from .55 to .66 between the subscales of the Level 2 version of the CASSS and Harter's Social Support Scale for Children (SSSC; Harter, 1985a). Also, significant moderate correlations were found between both Level 1 and Level 2 of the CASSS from all sources and the student version of the SSRS (Gresham & Elliott, 1990), as well as with the SSCS (Gresham et al., 1993). These results demonstrate concurrent validity of perceived social support with the constructs of social skills and self-concept. Finally, significant, negative, moderate correlations were demonstrated between Level 1 of the CASSS and indices of problem behaviors as measured by the Behavior Assessment Scale for Children (BASC; Reynolds & Kamphaus, 1998).



As with the SSSS (Nolten, 1994), the CASSS demonstrated gender and age differences in perceptions of actual social support. Girls of all ages perceived more overall actual support than males. Age differences were also apparent as total perceived actual social support decreased as grade level increased. Finally, differences emerged between minority and Caucasian students' perceptions of actual social support. Specifically, younger minority students in elementary school perceived more actual support from teachers than Caucasian students. Middle and high school minority students on the other hand, perceived less overall actual support than Caucasian students.

*Summary.* The published measures of children's perceptions of actual and available support have provided concurrent validity of children's perceptions of support with appraisals of the self in terms of overall competence, social skills, self-concept, and self-worth. Some evidence has also been established to link children's perceptions of actual support to academic competence as measured by grade point average. Perceptions of actual social support appear to decline as children get older, and females have been found to report higher perceptions of actual support than males, particularly from classmates and close friends. Younger minority students have been found to report more actual support from teachers while older minority students have been found to report less actual support overall as compared with Caucasian students. Finally, perceived available actual and available support from family and friends have been found to be negatively related to psychopathology and behavior problems. However, children experiencing major family stressors may provide inconsistent reports of perceived actual support.

The majority of published measures reviewed have adequately specified the type of support measured. These measures include assessment of various types of support

including emotional, informational, appraisal (i.e. evaluative feedback), instrumental, and companionship (i.e. friendship). The types of support explored in these measures roughly parallel the types of support explored in the adult literature. After surveying the adult literature on social support, Cutrona and Russell (1990) found that researchers generally investigate a common set of basic support types. These included *emotional support*, *social integration support* (i.e. relationships that enable a person to engage in social and recreational activities), *esteem support* (i.e. bolstering another's self-confidence or self-esteem), *positive feedback* on another's skills, *tangible aid* (i.e. instrumental support) *informational support* (i.e. providing guidance about possible solutions to a problem). Therefore, in comparison with the adult literature, esteem support seems to be the only component missing in the children's measures reviewed.

All measures included multiple sources of support such as parents, teachers, and friends, though all primarily measure perceived actual or available emotional and social support. Overall, the measures reviewed demonstrate acceptable psychometric properties in measuring children's perceptions of available or actual social support. Specifically, all measures have reported relatively strong internal consistency reliability for the total scales and subscales. However, test-retest reliability was only established for Nolten's Student Social Support Scale and the ranking and rating procedure of My Family and Friends. In addition, the bulk of measures have established factors by network providers of support.

The measures reviewed do not clearly specify whether it is *perceptions of actual support* or *perceptions of available support* that is being measured. As stated earlier, it was necessary to review the wording of items in order to make an initial determination as

to whether the measure provided an assessment of perceived actual support or perceived available support. For example, measures by Nolten (1994) and Malecki et al. (1999) have used both frequency (i.e. actual support) and the importance of support as ways to gauge children's perceptions. In contrast, both the Social Support Scale for Children and the Perceived Social Support from Family and Friends scales primarily ask children to indicate agreement among statements that only tap the availability of support by a network member. Finally, the My Family and Friends Measure uses a much different format where children use a ranking procedure to indicate which network member provides the most "actual" support, and a barometer prop to rate the satisfaction of support received.

Though the measures reviewed provide adequate measurement of children's perceptions of actual and available support, these instruments do not measure several other important aspects of children's social perceptions. For instance, none of the measures include an assessment of children's perceptions of providing support to others. Similarly, none of the measures includes assessment of the accuracy of children's perceptions. This type of information would assist researchers in understanding the variables that may contribute to lower levels of perceived social support. The present study is unique in that children's perceptions of support are evaluated from the perspective of the child as well as the perspective of the child's peers which provides a more cohesive view of children's subjective appraisals of support and peer relations in the classroom. Using qualitative interview techniques, the present study also includes an investigation of the types of support children conceptualize within the context of the classroom. This particular information might aid future researchers in designing measures

specific to the classroom when investigating perceptions of support within this context. Next, the role of social competence in perceptions of social support is discussed.

### *The Role of Social Competence in Perceived Social Support*

Helping children to develop academic competence is the primary goal of schools. However, it is also recognized that children must develop positive interpersonal peer relationships and engage in behaviors valued by both peers and teachers to assure success in the school environment (Wentzel, 2002). Social competence has been defined as the availability and utilization of cognitive, emotional, and specific behaviors that bring positive consequences in specific social situations (Hinsch & Pfingsten, 1983).

Social competence is a multifaceted construct that is comprised of social skills, positive views of the self, and lack of social anxiety (Rohrle & Sommer, 1994). Information processing has been identified as an important component of social competence. Social information processing involves attending to, interpreting, and responding to social messages (Crick & Dodge, 1996). As social learning occurs in the context of relationships, perceiving actual or available social support from others is dependent on one's ability to interpret the actions of others as supportive.

Social competence is needed in order to initiate and maintain various types of social relationships and is prerequisite for receiving social support. In turn, social support is necessary for the development of social competence. Particularly for children, social support plays an important role in the development of various social skills. Cohen et al. (1986) found links between perceived social support and several social competence variables including self-disclosure and social anxiety. According to Rohrle and Sommer (1994), certain social competences may be more relevant for providing, receiving, and

ultimately perceiving support such as attending to important social cues, accurately perceiving problems and the moods of others, displaying empathy, and offering or requesting help. Thus, accurately perceived the availability of support may be related to children's level of development.

The development of social competence is dependent on children's social interactions with those in their social networks (Pavri & Monda-Amaya, 2001). The ability to establish positive peer relationships has not only been linked to adjustment but also to academic competence in elementary school (Wentzel, 2000). It is assumed that social competence assists individuals in coping with stress and also in attracting and maintaining social support (Cohen, Sherrod, & Clark, 1986). Cohen, Sherrod, and Clark (1986) found social skills to be positively related to the number of friendships as well as to perceptions of available support. As suggested by Cohen et al., social skills may influence the strength or nature of newly formed relationships in a way that impacts actual differences in available support. However, perceived available social support was still found to buffer against the negative effects of stress after controlling for the possible influence of social skills. In addition to the actual support resources in the environment, individual factors such as social competence have also been found to mitigate the negative effects of stress on children's adjustment. For example, perceived actual social support and social problem solving skills were found to moderate the negative effects of stress on adjustment for elementary school children (Dubow & Tisak, 1989; Quamma & Greenberg, 1994). Next, self-concept is discussed in relation to perceived social support.

### *The Role of Self-Concept in Perceived Social Support*

Self-concept is the perception of the self as having either desirable or undesirable qualities (Harter, 1985a). Self-concept stems from beliefs about one's competence and therefore, self-concept underlies self-esteem (Harter, 1988). Social-cognitive theories have conceptualized self-concept as a mediator between perceived social support and well-being (Baldwin & Holmes, 1987). Specifically, negative thoughts about social experiences and relationships (i.e. perceptions of support) converge with and activate negative thoughts about the self (i.e. self-concept) in a process that results in emotional distress. Social support is thought to enhance self-concept as individuals receive approval from others (Harter, 1998). Given these views, perceived social support has been typically conceptualized as a predictor of self-concept (e.g. Harter, 1987; Demaray & Malecki, 2002).

As children develop, they begin to perceive themselves in terms of the social context (Thompson, 1999), such as knowing how to behave in certain situations. Therefore, children's self-concept may vary with the social context in which they find themselves (Harter, Waters, & Whitesell; 1998). For this reason, studies have begun to investigate context-specific aspects of social experience and self-concept. For example, Harter (1987) found that perceived available support from classroom peers (and parents) was more predictive of self-worth than support from friends (and teachers). More recently, Buhs (2005) found that peer exclusion and victimization predicted academic self-concept, and that peer acceptance was positively related to academic self-concept, academic adjustment (i.e. achievement), and classroom engagement in a sample of fifth graders.

Therefore, in the classroom, children's views of themselves, their level of academic achievement, and the views of their peers are interrelated. In fact, self-esteem often declines between the preschool and school years as children compare themselves to others and make more realistic assessments of themselves (Thompson, 1999). According to theories of social comparison, children may compare their own performance with that of others to draw a conclusion about their own level of competence (Ruble, 1983). Children's beliefs about themselves are not only impacted by how they believe they are regarded by others, but their evaluations of themselves become more consistent with the views of others over time (Thompson, 1999).

Although self-concept has been typically regarded as being directly influenced by perceptions of social support, self-concept has both affectional and cognitive elements (Swann, Chang-Schneider, & McClarty, 2007). Moran and DuBois (2002) sought to clarify the relationship between perceived social support and self-concept using structural equation modeling to compare various conceptual models linking the two constructs. The study sample was racially diverse, consisting of 350 children in grades five through eight. Children completed Procidano and Heller's Perceived Social Support Scale (1983) to provide a measure of perceived available support from multiple sources. They completed the Self-Esteem Questionnaire (Dubois, Felner, Brand, Phillips, & Lease; 1996) to provide a measure of their self-evaluations across a variety of domains. Finally, problem behaviors were investigated using Achenbach's Youth Self-Report (1991). The authors investigated three models including a mediational model where self-esteem moderates the relationship between perceived social support and adjustment; a mediated and direct effects model where social support contributes directly to adjustment and is also mediated

by self-esteem, and a direct effects model where perceived social support contributes separately to both self-esteem and adjustment.

According to the study results, self-esteem and perceived social support were positively related to one another, and both were negatively related to problem behaviors. However, the best fit was obtained for the mediated and direct effects model.

Specifically, a significant and negative path was found between perceived social support and problem behavior. As well, a significant relationship was also found for the mediational path. Therefore, although the mediational path held, social support was still found to make a contribution to adjustment distinct from self-concept. The authors recommended that both variables be targeted in prevention programs. In the current study, both self-concept and perceived available peer social support are treated as social-cognitive variables. However, the mediating role of self-concept in perceptions of support is acknowledged.

Next, a review is provided of studies specifically investigating children's perceptions of actual or available support. Many of these studies also include measures of self-concept or self-esteem. Initially, an attempt was made to select studies published within the last five years. However, very few studies were found. Therefore, a search was conducted for studies published within the last fifteen years in order to produce a greater yield.

#### *Research Studies in Children's Perceptions of Social Support*

Various individual factors may affect perceptions of social support including personality, cognitive style, social history, and social competence (East, Hess, & Lerner, 1987; Sarason et al., 1990b). Most studies investigating perceptions of social support in



younger children have focused on comparing groups identified as experiencing problems with those not so identified. For example, Wenz-Gross and Siperstein (1997) conducted a study designed to investigate perceptions of actual social support in a sample 106 children in grades 4 through 6, where 40 of the children were identified as learning disabled. Based on prior research that highlighted the lower social status of children with learning disabilities, the purpose of the study was to compare friendship quality, perceived social support, and social network size for children with and without learning disabilities.

The “My Family and Friends” interview (Reid, Landesman, & Treder, 1989) was used to assess children’s *perceptions of actual* emotional, problem solving, and companionship support from peers and adults in and outside of the child’s home. In addition to completing a measure of depressive symptoms, children’s social networks, friendship quality, and the classroom environment were assessed using additional interview measures. Finally, teachers rated children’s classroom behavioral adjustment.

According to the study results, children with learning disabilities did not differ in the size of their social networks as compared with non-disabled children. However, children with learning disabilities turned to peers less often for all forms of support and less often to their families for problem-solving support than those without learning disabilities. As explained by the authors, these findings may be related to the frustrations experienced by families of children with learning problems as well as to deficits in social skills frequently displayed in learning disabled children such as difficulties reading and interpreting social cues (Pavri & Monda-Amaya, 2001). With respect to friendship quality, those with learning disabilities reported less intimacy, self-esteem, loyalty, and

contact in their friendships. According to the authors, these particular results help to explain why these children reportedly sought peers less often for social support as they apparently experienced relatively less satisfying friendships.

Another interesting finding in this study concerns the impact of the classroom environment on children's behavioral adjustment. Specifically, for all children, a negative classroom environment (in terms of friction between students and lack of social cohesion) was related to difficulties in teacher-rated behavioral adjustment. Children with learning disabilities, however, were found to be particularly at-risk as they were more likely to experience depression in a negative classroom environment. However, the learning disabled children in this particular study were not placed in full-inclusive classroom settings. As discussed by the study authors, it may be that children with learning disabilities who are educated in full-inclusive settings may not exhibit the same difficulties in peer support. However, the link between the experience of depression and a negative classroom environment may also be attributable to variables not assessed in this particular study such as social competence.

Difficulties related to disability status in children's social relationships and perceptions of actual support were also investigated by Demaray and Elliott (2001). The study investigated differences in the impact of *perceived actual* social support for children with attention deficit hyperactivity disorder (ADHD) as compared with their non-disabled peers in a sample of all-male, predominantly Caucasian children in grades 3 through 6. In addition, this particular study also sought to examine the relationship between children's perceptions of actual support and social support reportedly provided

by teachers and parents. Both parents and teachers completed questionnaires designed to measure the frequency and importance of support provided to the children.

The Student Social Support Scale (SSSS; Nolten, 1994) was used to measure children's perceptions of actual social support from parents, teachers, classmates, and friends in terms of frequency and importance. Children also completed measures of social skills and self-concept. For all children, both social skills and self-concept were positively related to overall perceptions of actual social support. Also, a negative correlation was found between perceived actual social support from classmates and behavior problems for all children. However, results indicated that although children with ADHD did not differ in the importance of social support, these children had lower levels of perceived actual support as compared to those without ADHD.

Children's perceptions of actual support were also found to be moderately related to parent's and teacher's perceptions of the frequency with which they make social support available. Though the actual correlations were low ( $<.30$ ) and not statistically significant, the researchers found that when similar ratings were collapsed together (such as ratings for the response "always" and those for "almost always"), the percentage of agreement between parents and students was 65% while the percentage of agreement between teachers and students was 61%.

Demaray and Malecki (2002a) investigated the relationship between perceived actual social support, self, teacher, and parent-rated social skills, self-concept, and parent-rated adjustment in a study that utilized a combined sample taken from multiple studies of children in grades 3 through 12. The investigators also sought to determine the critical levels of perceived actual social support with respect to adjustment by classifying

students into low, average, and high perceived social support groups. Perceived actual social support was measured using the Child and Adolescent Social Support Scale (Malecki et al, 1999) which measures support from parents, teachers, classmates, and close friends. Results indicated moderate and significant correlations between self-concept and perceptions of actual social support for all groups of children. Overall, students with low levels of perceived actual social support were found to have lower self-concept scores, lower adaptive skills, and more externalizing behavior problems than those with average levels of perceived actual social support.

With respect to self-concept and self-rated social skills, those with high levels of perceived actual social support had significantly higher scores than those with average levels of perceived actual social support. However, no differences were found in teacher-rated adjustment and teacher-rated social skills between children with average perceptions of support and those with high perceptions of support. Therefore, though teachers did not report differences in the functioning and skill level of children in the average and high groups, children with high levels of perceived actual support evaluated themselves more positively than did their average peers.

The study also evaluated perceptions of support according to disability status. Differences in overall perceptions of perceived actual support were not found between children with and without disabilities. However, in contrast to the studies conducted by Demaray and Elliott (2001) and Wenz-Gross and Siperstein (1997), all school-identified disability groups were placed together in the analyses so that differences with respect to specific disabilities could not be determined. The size of the combined sample (N = 1,711) also allowed for comparisons across ethnic groups as well as gender and age.

Native American students (N = 161) reported significantly lower overall perceptions of actual support than all other groups. African American students (N = 99) perceived significantly higher parent and teacher actual support than Caucasian students. Gender differences emerged in the overall level of perceived actual support as girls reported higher levels than boys. Girls also reported a greater amount of perceived actual support from teachers, classmates, and close friends while younger students reported a greater amount of perceived actual social support from parents and teachers than did older students.

As children move into adolescence, relationships with peers take on increasing importance. In particular, as children age, peers become critical sources of psychological support, emotional support, and guidance. Studies investigating perceptions of social support in adolescence have tended to focus on the relationship between support and high-risk behavior. For example, in a longitudinal study conducted across the school year, Windle (1992) sought to investigate the relationship between perceived available social support from family and friends and reported alcohol problems, depressive symptoms, and delinquency in a sample of 10th and 11th grade adolescents. A predominantly Caucasian, middle class, and suburban sample of students completed questionnaires to tap alcohol consumption, alcohol problems, delinquent activity, stressful life events, and depressive symptoms. *Perceived available* social support was measured using the Perceived Social Support Family and Friends Scale (Procidano & Heller, 1983). The importance of adequate levels of perceived available support from family was demonstrated in results indicating that reports of life stress and perceptions of low available family support were associated with higher levels of alcohol consumption

and delinquent behavior. However, the combination of stress and low perceived available family support were the only statistically significant predictors of problem behaviors for girls, not boys.

Gender differences also manifested in the area of perceived available social support from friends. The interaction between reported adolescent stress and perceived available friend social support for boys was statistically significant and low in magnitude, but consistently predicted depressive symptoms in boys. For boys who reported low to moderate levels of stress, high perceived available support from friends appeared to buffer depressive symptoms. Interestingly, however, for boys with the highest levels of stress, high levels of perceived available social support from friends were associated with higher levels of depression. Because stress was significantly related to delinquency, Windle (1992) suggested that the social interactions among delinquent and aggressive boys “may not facilitate more intimate exchanges that characterize friendships among some non-aggressive children, and that may be essential for effective stress buffering” (p. 529), though the same peers may be perceived as supportive.

Lifrak, McKay, Rostain, Alterman, and O’Brien (1997) investigated the relationship between perceived available social support, perceived self-competence, and substance use in a group of 7<sup>th</sup> and 8<sup>th</sup> graders. Substance use included an assessment of cigarette smoking, marijuana use, and alcohol use. The sample included approximately 59% Caucasian, 28% African American, and 13% of students from other ethnic backgrounds. Perceived available social support from parents, teachers, classmates, and close friends was measured using Harter’s Social Support Scale for Children and Adolescents (1985a). Gender differences emerged as greater perceived available social

support from parents and teachers was associated with lower substance use from boys, while greater perceived available social support from classmates was actually associated with more substance use for girls. The relationship between substance use and perceived available social support also appeared to be moderated by perceived scholastic competence. In both boys and girls, greater perceived available support from friends was associated with more substance use for those with low perceived scholastic competence. On the other hand, perceived available social support for boys and girls was negatively related or unrelated to substance use for those with high perceived scholastic competence. Overall, higher perceived self-worth and perceived scholastic competence were related to less substance use in both boys and girls.

Robinson (1995) investigated the relationship between self-worth and various types of perceived available social support in a predominantly Caucasian, middle class, suburban sample of adolescents in grades 7 through 12. The rationale for the study was based on theories emphasizing the importance of perceptions of the general peer group in forming opinions about the self. In addition, the study sought to discover variations in the relationship between different types of social support (i.e. approval, emotional support, instrumental aid) and self-worth. The Self-Perception Profile for Children (Harter, 1985b) was used to measure adolescent academic and social competence, physical appearance, and behavior. Harter's Perceived Social Support Scale (1985a) was used to measure perceptions of available social support from parents, best friends, classmates, and teachers. For students in grades 9 through 12, the scale was revised to additionally include a measure of perceived available social support from a romantic interest.

Consistent with the increasing importance of the peer group in adolescence, the study found that across all sources, peer approval was more predictive of self-worth than either available emotional support or instrumental aid. As explained by Robinson, it is likely that approval from classmates may serve to enhance one's self-worth to a greater degree than approval by best friends, as a "best friend" is likely to be taken for granted. Gender differences also emerged in the study across type of support. Overall, girls reported higher levels of available approval, emotional support, and instrumental aid from best friends than did boys. Also, girls reported higher levels of available emotional support from classmates than did boys. Differences between boys and girls also emerged according to the source of parental support as girls reported lower levels of available emotional support from fathers than did boys.

Demaray and Malecki (2002b) investigated perceptions of actual social support for high-risk Hispanic middle school students in grades 6 through 8. A large percentage of the students in this sample received free or reduced price lunch or some form of public aid and were therefore classified as high risk on the basis of the combination of ethnicity and socioeconomic status. The study compared children's perceptions of actual social support and behavioral adjustment indicators. Perceived actual social support was measured using the Child and Adolescent Social Support Scale (Malecki et al., 1999) which measures perceptions of support across various categories including parent, teacher, classmate, close friend, and school.

Results indicated a positive link between total perceived actual social support scores and adolescent self-ratings of emotional and behavioral adjustment. However, perceived actual support from parents and classmates emerged as the only statistically



significant predictors of clinical maladjustment, emotional symptoms, and personal adjustment. In terms of personal adjustment, perceived actual support from classmates was a stronger predictor of positive interpersonal relations as compared with support from close friends, though both were found to be statistically significant. Therefore, during adolescence, the importance of perceived actual support and acceptance from the larger peer group appears to have greater impact on emotional and interpersonal adjustment than support from a close friend.

*Summary.* Both perceived social support and self-concept have been found to be positively related to one another, and both constructs have been found to be negatively related to emotional and behavior problems. A mediated and direct effects path has been used to explain the relationship between perceived social support and self-concept. Perceived social support has been found to make a direct contribution to adjustment while self-concept also mediates the relationship between perceived social support and adjustment.

Differences in perceptions of actual and available support have been found to vary with respect to age, gender, and ethnicity. However, the relative lack of studies investigating differences according to race or ethnicity makes it difficult to draw conclusions. Even so, African American students have been found to have relatively higher perceptions of actual parent and teacher support as compared with other groups. Native American students, on the other hand, have been found to report relatively lower levels of perceived actual support as compared with other groups. Several studies have supported the finding that girls tend to report higher levels of perceived actual support than boys, and that overall, the amount of perceived actual support tends to decrease as

children age. Particularly for younger children, variables such as disability status and severity of disability, the presence of mutual friendships, and friendship quality have all been found to relate to children's perceptions of actual and available support. Children with learning disabilities and those with difficulties in behavioral regulation report lower levels of actual support, and these children may be at greater risk for maladjustment, particularly in negative classroom environments. Friendship appears to relate to greater perceptions of available support, although friendship quality is an important consideration. Next, a review is provided of peer acceptance in children's adjustment beginning with a discussion of measurement issues.

### *Peer Acceptance*

#### *Measuring Peer Acceptance*

As stated earlier, peer acceptance reflects the perspective of the larger peer group in terms of the degree to which children are liked (Gifford-Smith & Brownell, 2003) and is traditionally regarded as an index of social competence. Peer acceptance is typically measured either along a continuum of social preference using a Likert-type rating scale, or according to pre-established social status groups (Wentzel, 2002). In a recent review of the literature in children's peer relationships, Gifford-Smith and Brownell (2003) explained that in order to form social status groups, researchers typically have children nominate peers that they most like or most dislike. Some have argued that such a procedure may have harmful effects as children are asked to single out peers that they do not like. However, according to Asher & Dodge (1986), there has been no research evidence to support this concern. Peer ratings, the method used in the current study, are

an alternative method where each child rates every other child and an overall average acceptance score is calculated. Therefore, individual children are not singled out.

Using the nomination method, peer acceptance represents the number of most liked nominations while peer rejection is indicated by the number of most disliked nominations. Raw scores are standardized at the level of the group and combined to form scores for “social preference,” which is the difference between the number of most and least liked nominations, and “impact,” which is the sum of most and least liked scores. Scores for social preference and social impact are typically combined to form five social status categories including popular, rejected, controversial, and neglected. Children who receive many nominations for most liked and few for disliked are termed “popular”; those who receive relatively equal numbers of liked and disliked nominations are termed “controversial”; children who receive many disliked nominations are termed “rejected”; and those who receive very few nominations of either kind are considered “neglected”.

#### *Research Studies in Peer Acceptance*

The peer acceptance research literature has documented distinct behavioral and cognitive outcomes for each of the social status groups described above. However, much of this information proceeds from correlational studies. Therefore, the links to sociometric status cannot be interpreted as causal (Rubin, Coplan, Nelson, Cheah, & Lagace-Seguin, 1999). In general, popularity has been linked to prosocial behavior. Popular children have also been found to be more accurate when interpreting social cues (Dodge & Price, 1994) and to be described by peers as helpful, cooperative, and considerate (Coie et al., 1990). Gifford-Smith and Brownell explain that controversial children demonstrate behaviors consistent with both popular children and rejected

children. Controversial boys have been found to be more aggressive while controversial girls have been described by peers as arrogant (Hatzichristou & Hopf, 1996).

Neglected children have been described as having low visibility within the classroom (Gifford-Smith & Brownell, 2003), and these children are at times described as withdrawn or shy (Ollendick et al., 1992). However, Gifford-Smith and Brownell point out that this particular group of children is less stable than the others, and may experience a change in social status if placed in a different setting. On the other hand, rejected children have consistently been found to exhibit aggressive behaviors and their rejected status tends to remain stable across settings (Asher & Dodge, 1986). Rejected children have also been found to display a greater degree of loneliness than neglected children (Asher & Wheeler, 1985). Of all the sociometric status groups, rejected children exhibit the greatest degree of adjustment problems in childhood. For example, children who are rejected by their peers have been found to have trouble attending to and interpreting social cues as well as regulating emotion (Dodge & Feldman, 1990; Dodge et al, 2003).

Numerous research studies have found that children who are disliked by their peers are at risk for adjustment difficulties. For example, peer acceptance, reciprocal friendship nominations, friendship quality, and loneliness were compared in a study by Parker and Asher (1993). Loneliness in children has been conceptualized as an indication of the need for social support (Murphy & Kupshik, 1992). The study sample consisted of a racially diverse group of students in grades 3 through 5 in the Midwest. Students were asked to rate classmates on a scale indicating how much they would like to play with each classmate. The students were then classified into groups reflecting high acceptance, low acceptance, and average acceptance. Children were also asked to nominate three

“best friends” and “very best friends”, and reciprocal nominations were identified. Children were identified as having a “friend” or “best friend” if the child they nominated in these categories also nominated them. Friendship quality, friendship satisfaction, and loneliness were assessed with questionnaires. Results from this study revealed that children classified low in acceptance were much less likely to have a reciprocal friend, while those with high acceptance were more likely to have a reciprocal friend. With respect to friendship quality, children who were low in acceptance reported fewer positive qualities than high and average accepted children.

Also, both friendship quality and peer acceptance were found to predict separately for loneliness. For all children, ratings of peer acceptance were negatively correlated with reports of loneliness. However, level of acceptance did not mediate loneliness for children without reciprocal friends. While the results of this study make apparent the need to explore other aspects of children’s social experiences beyond peer acceptance such as relationship quality, it is reasonable that children who have less positive friendships are more likely to perceive lower levels of support from peers. In fact, though causality was not demonstrated in the study conducted by Wenz-Gross and Siperstein (1997) discussed earlier, children with learning disabilities indeed reported much less positive features in their friendships and turned to their peers less often for social support.

A study conducted by Cook and Semmel (1999) allows for a comparison of the variables linked to peer acceptance and perceived social support for disabled students. The study sample consisted of students in grades 2 through 6 in a racially and socioeconomically diverse school district in southern California. Teacher ratings were used to classify disabled students into those with mild disabilities and those with severe

disabilities. Those with mild disabilities included children with learning disabilities while the severe disabilities group included those with mental retardation, multiple handicaps, severe emotional disturbance, autism, and severe orthopedic impairment. Further, participating classrooms in the study were classified as heterogeneous and homogenous depending on whether the classrooms exceeded a certain percentage of disabled students in the class. Students were asked to nominate peers with whom they would like most to play and work.

The results of this study indicated that students with disabilities received a significantly lower number of nominations as those that peers would like to work with and play with than non-disabled peers. Severely disabled students were more accepted by their peers when they were in homogeneous classrooms as compared with severely disabled students in heterogeneous classrooms. In contrast, those with mild disabilities were more accepted by their peers within the context of heterogeneous classrooms. These results highlight the importance of the peer context when evaluating peer acceptance for disabled children as well as the level of severity of the disability. In particular, the degree of similarity or dissimilarity to the larger peer group appears to be an important consideration. In the study conducted by Demaray and Elliott (2001) discussed earlier, boys with ADHD perceived much lower levels of actual social support. Though not explored in either study, these results suggest that for students with more obvious or severe disabilities, low levels of peer acceptance may function to limit disabled children's positive peer experiences, which in turn may lower levels of perceived social support. The results of this study may also help to explain why Demaray and Malecki (2002b) did

not find differences in perceptions of support for disabled students when no distinction was made between students with respect to type or severity of disability.

East, Hess, and Lerner (1987) investigated the relationship between perceptions of available social support, sociometric status, self-perception, and parent and teacher-rated behavioral adjustment in a sample of girls in grade 6. Sociometric groups based on both positive and negative peer nominations were used to classify the girls into popular, rejected, controversial, and neglected groups. Girls were classified as controversial if they received nominations above the median on both positive and negative nominations. Using a questionnaire format, the girls were asked to nominate a boy and then a girl who characterized a list of 9 positive and 9 negative attributes. Participants in the study completed Harter's Social Support Scale for Children (1985a), a self-report measure that asks children to indicate agreement among statements measuring perceived available emotional support from various sources. However, though this particular measure was designed to measure support from various sources, the authors of this study combined scores from both classmates and close friends to create an overall peer score of perceived available social support.

Results from the study revealed that girls who were rejected by their peers indeed perceived lower levels of available social support from their peers than girls in other sociometric categories. Rejected girls also received significantly lower teacher-ratings of adjustment than those in other sociometric status groups and they rated themselves significantly lower on physical attractiveness and athletic ability than neglected girls. According to the study authors, because the rejected girls in the study appeared to be aware of their social status, these girls might also tend to withdraw and isolate socially,

further diminishing their opportunities for receiving social support. With respect to self-perceptions, those of neglected girls did not differ significantly from those of popular girls. However, neglected girls received lower teacher ratings on academic ability and higher parent ratings of behavioral difficulties. It seems then that neglected girls are less likely to evaluate themselves negatively than those who are explicitly rejected by their peers.

Frankel (1990) investigated perceptions of relationship stress, friendship, perceived actual social support, and peer acceptance in a sample of girls in grades 6 through 8. A questionnaire was developed for the study (i.e. the Social Milieu Scales) to measure perceptions of actual emotional, problem-focused, and behavioral support from peers and best friends. Girls who were rated as popular were found to experience less social stress. However, popularity was not found to be related to perceptions of actual social support. The importance of friendship emerged as the number of best friend nominations was related to perceived actual social support from peers. Also, having a reciprocal friendship was related to higher perceptions of intimacy and problem-focused support as compared to girls with unreciprocated friendships. The results of this study suggest that reciprocal friendship may play a more significant role in perceptions of support than acceptance by the larger peer group.

Perhaps one of the most important findings in the area of peer acceptance is the link between rejected status and aggressive behavior. In several longitudinal studies, Dodge et al. (2003) examined the relationship between peer acceptance and the development of antisocial behavior in an ethnically diverse sample of children in grades 1 to 3 who were assessed again in grades 5 to 7. Students in the sample were asked to rate



classmates according to how much they liked each child and were asked to name up to three classmates that they “especially liked” and “especially disliked”. Social information processing patterns were assessed by having the children view and rate video vignettes depicting various peer entry situations and alternative strategies for dealing with the situation. Classroom teachers completed the Child Behavior Checklist (CBC; Achenbach & Edelbrock, 1986) to measure aggression.

Results of this study revealed that boys and girls who were rejected and aggressive in early elementary school were more likely to be rated as aggressive by teachers several years later. In addition, analyses revealed that a significant amount of the effect of peer rejection was accounted for by biases in the children’s social information processing patterns. As explained by the study authors, social information processing biases contribute to early peer rejection and affects later interactions with peers by increasing their “hypervigilance to hostile cues and their tendency to generate aggressive responses to peer dilemmas and their skill in enacting those responses” (Dodge et al., 2003, p. 390). As explained by the study authors, difficulties in peer relationships may hinder children from learning necessary social skills since peer relationships provide the context for social learning. Therefore, children who are rejected may not only be at risk for poor adjustment, but may also be less likely to develop appropriate skills for establishing and maintaining positive friendships.

*Summary.* Factors found to relate to low levels of peer acceptance include aggressive behavior toward others and disability status. Poor early peer experiences may lead to the development of biases in perception that may contribute both to continued peer rejection and corresponding low levels of perceived social support. These factors

may act to impede children from participating in appropriate social experiences necessary for the development of social skills that enable children to establish friendships. The research reviewed supports the notion that behavioral difficulties may lead others to provide lower levels of actual support to children as they perceive it. Further, both perceptions of actual and available support and ratings of peer acceptance have been linked to indices of adjustment and to self-concept for children of all ages. The role of friendship in children's development, particularly as it relates to the provision of actual support is discussed next.

### *Friendship and Children's Social Development*

Children's peer relationships are composed of various levels of interpersonal experience. The ability to form friendships is distinct from children's ability to gain acceptance in the classroom (Parker & Asher, 1993). Social status represents the level at which a child interacts with a group of classroom peers and occupies a social position among those peers while friendships represent another level of experience (George & Hartmann, 1996). George and Hartmann define friendship as "a subjectively defined, voluntary, and reciprocal relationship between two individuals" (page 2301). Friendship may be best viewed as a general and malleable concept that children modify and use in a collaborative fashion to address mutual concerns, challenges, and needs (Rizzo & Corsaro, 1995).

Developmentally, children are able to make distinctions between friends and non-friends beginning in early childhood (Newcomb & Bagwell, 1995). Friendship choices become more overt and relationships are often marked by competitiveness as children compare themselves to others and make self-judgments. For young children, friendship

functions to help them understand the principle of reciprocity whereby resources can be shared to benefit themselves and others. Ultimately, reciprocity leads children to develop concern for others (Youniss, 1994). According to Roffley, Tarrant, and Majors (1994), beginning around age 6, children begin to understand that reciprocity is central for maintaining positive interactions with their peers. However, young children understand reciprocity in literal terms where one “kind action” is returned for another (Youniss, 1994). Initially, reciprocal social interactions center on material and physical aspects such as lending and borrowing school supplies (Roffley, Tarrant, & Majors; 1994).

As children approach middle childhood, friendships are characterized by interpersonal awareness, games, and contests (Gifford-Smith & Brownell, 2003). Furman and Bierman (1983) found that children’s expectations for affection and encouragement increase as children age. Younger children tend to place a greater emphasis on physical characteristics of peers and the sharing of common activities in friendship. Friendships also tend to stabilize and become more reciprocal across the school year and as children age (Epstein, 1986; Lanier, unpublished). Children’s friendships are often marked by similarities between friends, particularly with respect to sex (Gifford-Smith & Brownell, 2003). By the age of 9, children’s friendships tend to become composed of the same gender (Roffey, Tarrant, & Majors; 1994). According to George and Hartmann, numerous studies have found that approximately 80 – 95% of children’s friendships are composed of same-sex peers, particularly at younger ages. However, children have also been shown to choose friends of similar physical appearance (Epstein, 1986).

Selman and Demorest (1984) and Selman and Schultz (1990) have discussed a developmental model to describe how children understand friendship and are able to

coordinate their perspectives with those of their peers. According to Selman and Demorest (1984), the model is made up of several components: understanding the perspective of the self and other, the motivation underlying the behavior, control of affect, and action-orientation which refers to whether children attempt to transform the thoughts, feelings, or actions of others or themselves during the social interaction.

According to the model, children's friendships move from impulsive and physical, to unilateral and coercive, reciprocal and influential, and at the highest level, collaborative and mutual. In other words, friendship proceeds developmentally from an egocentric perspective to a mutual perspective. As children participate in mutual friendships, the strategies used to coordinate their behavior with their understanding of the perspective of their peers may be characterized by the use of collaboration as a way of meeting mutual goals.

As explained by Selman and Schultz (1990), at the initial stage (ages 3 to 6), children have an egocentric understanding of friendship where the actions of others are equated with physical characteristics rather than intentions. At this stage, children are not able to make distinctions between the physical and psychological characteristics of others. Differentiation between themselves and others are often described in physical terms. At the next stage (ages 5 to 9), children have a unilateral understanding of friendship and they begin to understand that feelings and intentions are important to their relationships with others. Children are able to distinguish between behaviors and the thoughts, feelings, and intentions of others.

The next stage (ages 7 to 12) is marked by a reciprocal understanding of friendship for children. Children understand that trust, jealousy, and rejection can be

experienced by themselves and others. Children are able to use self-reflection and consider the perspectives of others at this stage. In early adolescence, children begin to form a mutual understanding of friendship as they understand the mutuality of commitment. At the highest level, reached in later adolescence, children possess an interdependent understanding of friendship. Relationships at this stage are characterized by mutuality and intimacy while children are also able to grant one another autonomy and independence.

According to the model just discussed, the children comprising the current study sample, the majority of whom ranged in age from 8 to 9, would be expected to possess at least a unilateral understanding of friendship, but more than likely a reciprocal understanding of friendship. Therefore, their friendships may be characterized by mutual helping and sharing resources in the classroom. Also, although not currently under investigation, their children's friendships are more than likely composed of peers who may be of similar appearance and who are of the same gender. Finally, according to their corresponding developmental stage, the children in the current study sample may be beginning to develop the capacity for self-reflection as well as the ability to consider the perspectives of their peers. As well, they may be able to understand that various emotional states can be experienced by themselves and their peers.

### *Measuring Friendship*

Hartup (1996) proposed a framework for understanding the impact of friendship on children's development that includes three aspects found to be important: (1) having or not having friends, (2) friends' personality characteristics, and (3) the quality of children's friendships. Typically, research in children's friendships has focused on one or

more of these aspects. Friendships are typically identified through the use of sociometric techniques although observation techniques are used as well (Gifford-Smith & Brownell, 2003). One of the most common methods is to have children nominate several best friends, and then identify reciprocal nominations for friendship. Reciprocal friendship nominations provide face validity for children's friendships (Parker & Asher, 1993). Sociometric research is typically carried out in the context of the classroom where children's friendship nominations are restricted to the classroom. However, this method has been criticized as children often report many friendships outside of the classroom when not restricted (Krappman, Oswald, Weiss & Uhlendorff, 1994; Smith & Inder, 1990). Even so, the available research in children's classroom friendships supports the usefulness of limiting nominations to the classroom.

#### *Friendship as Actual Support*

Social support is available in the context of social relationships where helping is guided by mutually accepted rules (Rohrle & Sommer, 1994). According to Bukowski (2001), friendship functions to inform children of their value, to promote skill acquisition and exploration, as protection, and also in forming a culture defined by behavioral standards, goals, and expectations that influence a child's behavior. Thus, friendships serve as the context for the provision and receipt of many aspects of social support. Friendships may serve a variety of supportive functions including providing emotional security, ego support, intimacy, affection, guidance, companionship, and the context for developing social competence (Asher & Parker, 1989). On the other hand, friendships may also contain conflict and children may participate in friendships with peers who

display antisocial characteristics and who encourage antisocial behavior in their friends (Gifford-Smith & Brownell, 2003).

Children expect friends to help, share, praise each others' successes, and offer encouragement after failures. Good friendships are those characterized by prosocial behavior, self-esteem support, intimacy, and loyalty (Berndt, 2002). According to Berndt, having a few good friendships may help children interact positively with other classroom peers who may impact the attitudes of the individual child and the child's peers.

Therefore, high quality friendships may enhance children's social success with peers.

Perceived social support from peers and the number of reciprocal friendships have been found to make independent contributions to social competence measures (Cauce, 1986) and to peer nominations for prosocial skills (Gest, Graham-Bermann, & Hartup, 2001).

On the other hand, friendships high in negative features often increase disruptive behaviors due to the interactional style practiced between the friends that generalizes to others (Berndt, 2002).

Differences in friendship patterns have also been demonstrated in children of different social status groups. Using a sample of children in grades 5 and 6, George and Hartmann found that children were more likely to form friendships with peers of the same sociometric status group. However, the results of the study also indicated that a large percentage of unpopular children did not have friends as compared with popular children. Unpopular children were also more likely to name younger peers and peers outside of school as friends as compared with popular children.

### *Friendship as a Protective Factor*

The experience of stressful life events is recognized as a factor in the development of adjustment difficulties in elementary school children (Quamma & Greenberg, 1994). Enacted social support is acknowledged as a protective resource against the negative effects of life stressors (Garmezy, 1983; Sandler, Miller, Short, & Wolchik, 1989). Social support may protect children from the negative effects of stress by enhancing self-esteem, increasing the perception of personal control, enhancing the perceived security of social relationships, and by assisting children with adaptive tasks (Sandler et al., 1989). Sullivan initially proposed that children's friendships may buffer against the stresses related to a difficult family environment (Sullivan as cited in Bukowski, 2001). Thus, implied in having a friend is the availability of social support, whether or not it is actualized.

Friendship has also been shown to function as a protective factor for children at risk for victimization (Rizzo, 1989). Hodges, Boivin, Vitaro, and Bukowski (1999) investigated the impact of friendship on peer victimization using a sample of children in grades 4 and 5 in a longitudinal study conducted over the course of a year. Teachers completed measures of internalizing and externalizing problems while children nominated peers on items targeting victimization and friendship quality. Friendship was measured through reciprocal nominations. Having a mutual best friend was found to be negatively related to victimization, internalizing problems, and externalizing problems. The results of the study also indicated that children who were victimized experienced an increase in adjustment difficulty over the year when they did not have a best friend. However, for those initially victimized, having a best friend predicted a decrease in



victimization over time. Friendship quality was important, however, for those whose friends reportedly provided little protection against victimization. These children experienced a worsening of internalizing problems over the year. Pellegrini, Bartini, and Brooks (1999) found that peer acceptance and friendship protected against victimization. Fox and Boulton (2006) replicated these findings in a study conducted in the United Kingdom with a sample of children ages 9 – 10.

*Summary.* The ability to participate in mutual friendships may reflect one of the highest levels of social-cognitive competence. The capacity to develop friendship proceeds developmentally from an egocentric perspective to a mutual perspective. As children participate in mutual friendships, they use collaboration as a way of meeting mutual goals. Children's friendships serve as the context for the provision and receipt of many aspects of peer social support and may promote the acquisition of skills, encourage exploration, and act as a protective factor. Therefore, friendship implies that support is available, whether or not it is actualized. Friendship may protect children at risk for victimization, and for those who have previously been victimized, having a best friend may protect against further victimization over time. In addition to the presence of a mutual friendship, both friendship quality and the personality of the peer in question are important considerations. For example, friendships high in conflict and negative features may serve to increase disruptive and antisocial behaviors.

Children's friendships tend to stabilize and become more reciprocal over time. Especially at younger ages, children's friendships are typically composed of same-sex peers, friends of similar age, social status, and physical appearance. Children rated by classroom peers as unpopular are at risk for not having a friend, and these children may

compensate by forming friendships with younger peers and peers outside of school. Friendship may also serve to encourage interaction with other classroom peers in a way that further impacts children's social development. Perceived social support from peers, peer acceptance, and the number of mutual friendships have all been found to relate to indices of social competence and adjustment.

### *The Influence of Context on Classroom Peer Relationships*

The structural features of schools and neighborhoods may influence children's friendship networks (George & Hartmann, 1996). Using ethnographic investigative techniques to study children's friendships in first grade, Rizzo and Corsaro (1995) found that young children were primarily concerned with social participation, school work, and enduring friendships. In addition, children's friendships functioned to facilitate school work and maximize the amount of free play time. In particular, Rizzo and Corsaro found that for classroom friends, academic concerns were important as the children accomplished school-related tasks through sharing and helping.

Due to limited opportunities for free play in the classroom, children's need for play and social interaction become redirected toward academic tasks. In particular, the emphasis on academic tasks may influence the formation of friendships as children attempt to meet task demands by finding someone to work with and share their accomplishments with. The social ecology of the classroom may also influence the formation of friendships and influence which children become friends through same-ability academic groups and the seating arrangement of the classroom (Rizzo & Corsaro, 1995). Rizzo and Corsaro found that peers in the same class and ability group were perceived to be more similar than those in different classes and ability groups. The size of

schools has also been found to influence peer relationships. Specifically, children in smaller schools tend to display higher rates of social interaction (Karweit & Hansell, 1983).

Competence, regardless of the type, is a product of one's personal attributes and the ability of personal attributes to meet the situational demands of the context (Bronfenbrenner, 1989). The impact of peer relationships on adjustment may be more pronounced in contexts with strong peer cultures or where cooperative learning is emphasized (Wentzel, 2000). For example, Johnson, Johnson, and Tauer (1979) examined the impact of various types of classroom goal structures on children's perceptions of available support and acceptance from teachers and peers. The children in the study were placed into comparison groups where achievement was based on cooperative work with peers, competition with peers, or individual effort. According to the study results, children placed in cooperative work groups not only attained greater academic achievement, but also perceived their teachers and peers as more caring and supportive than children placed in either of the other groups. In general, socially and academically competent students are better able to engage in appropriate cognitive and social behaviors when classrooms are structured, supportive, and promote involvement (Connell & Wellborn, 1991).

#### *Overall Summary*

This literature review began with a review of perceived social support in children including existing measures of the construct, the role of social competence, and the relationship of perceived social support to self-concept. Next, peer acceptance and friendship were discussed as part of children's adjustment and social development. The

chapter concluded with a consideration of important contextual factors in the development of children's classroom peer relationships. Perceived available and perceived actual social support from peers, self-concept, peer acceptance, and the number of reciprocal friendships have all been found to relate to various aspects of children's adjustment.

Research studies in perceived social support for children have not typically distinguished between measurement of perceptions of actual support from perceptions of available support which makes it difficult to draw conclusions about any possible differences in outcomes between the two sub-constructs. In any case, the available research indicates that perceived actual or available social support from peers are both important in adjustment. Harter (1987) found perceived available peer support to be more predictive of self-worth than support from teachers and friends, and perceived actual peer support has been linked to adjustment indicators beyond children's perceptions of support from parents and other adults. Particularly for elementary school children who spend the school year with the same classmates and teacher, perceived actual and available peer social support may play a more significant role in adjustment than perceived peer social support for older children.

Children and adolescents with high levels of perceived actual or perceived available social support have been found to have fewer adjustment problems (Hirsch, 1985) and higher levels of perceived actual or perceived available social support have been linked to more positive outcomes for various populations of children. Low perceptions of actual or available social support have been found to be a risk factor in a number of areas including peer bullying and victimization. Particularly for younger

children, variables such as disability status and severity of disability, the presence of mutual friendships, and friendship quality have all been found to relate to children's perceptions of actual and available support, though friendship quality and personality characteristics of the friend in question are important considerations. Perceived available support from peers may encourage risk-taking and personal problem-solving (Wethington & Kessler, 1988) that ultimately enables children to establish relationships and gain further support from others (Wills, 1990). However, social competences are also needed in order to initiate and maintain friendships. Therefore, both perceived available peer support and social competence are critical factors in the establishment of children's friendships and are prerequisite for receiving social support.

Peer acceptance has been investigated widely in the school environment and is traditionally considered an indicator of social competence. In general, children who are accepted by their peers appear to possess skills in establishing friendships and positive peer relationships. Once established, children's friendships serve as the context for the provision and receipt of many aspects of peer social support and may further promote the acquisition of skills, encourage exploration, and act as a protective factor. Contextual factors may also influence children's peer relationships such as the use of same-ability academic groups, cooperative learning environments, seating arrangements, and the size of schools. Particularly in the classroom, academic tasks are an important concern for friends as children use sharing and helping to accomplish academic goals.

*Restatement of the Study Purpose.* Research studies in social support typically emphasize the role of the social environment or the individual's subjective perceptions of being supported. Little is known, however, whether adjustment is more closely linked to

individual perceptions, aspects of the social environment, or their interaction. Therefore, the primary purpose of this investigation is to investigate whether children's adjustment is more closely linked to their individual perceptions of themselves and of the supportiveness of others, aspects of the classroom social environment (in terms of peer acceptance and available peer support), or the congruence (i.e. "match") between the perspectives of the individual and the potential providers of support (in terms of mutual friendship and the match between perceived available peer social support and available peer social support). This study will also explore how children conceptualize social support within the classroom context.

## CHAPTER 3

### Method

#### *Study Design*

A longitudinal study design was employed in which elementary school children participated in individual interviews to complete a sociometric peer rating and peer nomination procedure, measures of negative emotion, a measure of self-concept, and a qualitative measure designed to gauge children's understanding of classroom peer social support. As part of a larger project, several additional measures related to children's social relationships were also administered that are not under investigation in the current study. Data were collected once during the fall, and again during the spring of the 2002-2003 school year. Teachers of the participating classrooms completed a rating scale to measure of behavior, emotional, and school adjustment for each child participating in the study – once during the fall and again in the spring of the school year. (As part of the larger project, participants were also involved in an unrelated pilot study that included a weekly social competence intervention group, a reading group, and a control group that lasted approximately 15 weeks. The effectiveness of the social competence intervention is not under investigation in the current study.) To allow for the development and stabilization of classroom relationships, the primary statistical analyses conducted in the current study involve the data collected at the end of the year only.

#### *Participants*

The participants in the study included second and third grade children and their teachers from a culturally and racially diverse public elementary school. The school was located in a Washington, D.C. metro area suburb. The initial study sample consisted of a total of 107 participants. The three second grade classes consisted of 23, 19, and 15

participants for a total of 57 children, while the three third grade classes consisted of 15, 17, and 18 participants for a total of 50 children. In the fall, second graders ranged in age from 7 to 8 while third graders ranged in age from 8 to 10.

The total sample was comprised of 63 males (approximately 59%), and 44 females (approximately 41%). Approximately 67% of the sample was classified by the school as African-American, 17% Hispanic, 11% Asian, and 5% Caucasian. All of the teachers of the participating classrooms were female and all but one were African American. One second grade teacher was Caucasian.

Several children were in receipt of various supplemental educational services. Also, 26% of students received ESOL services (English for Speakers of Other Languages), 1% received speech and language services, and 3% received special education services or educational accommodations as outlined in 504 plans. However, the use of ability grouping was not practiced in any of the participating classrooms.

Due to subject attrition, by the spring of the school year, the study sample consisted of a total of 99 subjects. The three second grade classes consisted of 23, 18, and 15 subjects for a total of 56 subjects, while the three third grade classes consisted of 12, 15, and 16 subjects for a total of 43 subjects. By the spring, all second graders were 8 years old while the vast majority of third graders were 9 years old. One third grader was 10 years old. The total sample at the end of the year consisted of 58 males (approximately 59%), and 41 females (approximately 41%). Four of the six classes in the study included over 75% of the members as participants. The other two classes had participation rates of 73% and 60%. A summary of participants' demographic information by the spring of the school year is provided in Table 2.



Table 2  
*Demographic Characteristics of Participants in the Spring (N = 99)*

<u>Characteristic</u>	<u>n</u>	<u>%</u>
<b>Gender</b>		
Male	58	58.6
Female	41	41.4
<b>Grade</b>		
Second Grade	56	56.6
Third Grade	43	43.4
<b>Age</b>		
8 years	56	56.6
9 years	42	42.4
10 years	1	1.0
<b>Race</b>		
African American	66	66.7
Asian	11	11.1
Caucasian	5	5.0
Hispanic	17	17.2
<b>Supplemental Educational Services</b>		
Speech and Language	1	1.0
English for Speakers of Other Languages	28	28.3
Special Education/504 Accommodation Plans	3	3.0
None	67	67.7
<b>Total Number of Participants</b>	<b>99</b>	

### *Procedure*

During the fall of the school year, the supervising school psychologist and two school psychology graduate students visited each classroom and spoke briefly with the children about the purpose of the study. The purpose of the study and the activities involved were described as “activities about friendship and how children get along with others.” Permission forms consisting of a cover letter describing the study and an informed consent form were distributed, and the children were asked to have the forms signed by their parents, and to return the forms to their teachers. The wording of the

permission forms varied according to whether the children were assigned to one of the three experimental conditions related to the social competence intervention described previously.

All informed consent forms requested permission for the children to complete measures related to emotional well-being, friendship, and social experiences, and for teachers to assess and rate children's classroom behavior and adjustment. Otherwise, the informed consent forms included specific information about the intervention in which the child's class was assigned. (See Appendix A for parent and teacher consent forms.) As incentive for returning the forms quickly, the children were promised a choice of a school appropriate "prize" such as pencils or markers, which were displayed in a clear plastic bag for easy visibility. In the weeks following the distribution of the permission forms, the graduate students visited each classroom to collect the forms and distribute the prizes. Prizes were given to all children who returned the forms regardless of whether parents gave or withheld consent. Children whose parents or guardians provided consent for participation in the study were chosen as study participants.

During both the fall and spring of the school year, children with permission to participate in the study completed measures in two separate individual interviews, which are referred to hereafter as "interview one" and "interview two." Each interview was approximately one hour in length, and the second interview was conducted within two weeks of the first. Before each interview, the child participant was escorted from the classroom by a graduate student interviewer, and reminded about the activities that had been discussed during their classes. The graduate student interviewers also brought copies of the permission forms signed by the children's parents in order to verify the

child's participation in the study with the teacher. A separate assent form (described later) was signed by the child.

The measures and procedures for the interviews were designed to reduce potential risks concerning the use of sociometric measures. All peer-related questions were placed within the context of a discussion concerning the importance of being sensitive to others' feelings. In order to minimize any possible risk, Bell-Dolan & Wessler (1998) made several recommendations for administering sociometric measures with children. These administration procedures were utilized in the present study and are listed in Appendix J. Interviews were conducted in a variety of locations throughout the school, such as the school library or the school counselor's office. A standardized introduction for each interview, developed by the graduate students, was read before each respective interview. (See Appendix C for the standardized introductions). Teachers were given packets containing a rating scale for each participating child. In order to provide ample time to complete the rating scales, the school principal arranged class coverage for each teacher participating in the study. Teachers completed the rating scales once during the fall, and again during the spring of the school year.

*Interview One.* After arriving to the interview location, the interviewer presented the child with a student assent form before the start of the first interview. The student assent form described the study in age-appropriate language and asked that the child agree to participate in answering questions related to his or her feelings, classroom experiences, and relationships with classroom peers. Also, children were told that they did not have to participate if they did not want to, and that they could go back to their classrooms instead. Once the interviewer gained the child's assent, the child was asked to

sign the assent form as acknowledgement of his or her willingness to participate. (See Appendix B for the student assent form).

Because certain portions of the interview were to be audiotaped, the graduate student interviewer informed the child that a tape recorder would be used as a way to help the interviewer to remember what the child had said. It should be noted that none of the measures administered in interview one are under investigation in the current study. The majority of these measures are related to children's social relationships, and therefore similar in investigative nature to the measures of the current study. All measures, however, were important in defining the context of the interview activities as those related to friendship. (See Appendix D for a list of interview one measures.)

*Interview Two.* At the start of interview two, each child was reminded of the assent form signed during interview one, and asked if he or she would still like to participate. After gaining agreement, the interviewer presented the child with a classroom layout consisting of boxes representing student desks, and labeled with the names of classroom peers (see Appendix E). The interviewer proceeded with administration of the peer acceptance measure and the peer nomination measure (see Appendix F). Additionally, a qualitative measure designed to gauge children's understanding of classroom peer social support, and a measure designed to rate the importance of peer support were administered. All responses were audiotaped and recorded verbatim on the administration and recording form. (See Appendix G for the sociometric recording form). Finally, measures of emotion, peer victimization, and self-perception were administered. These measures are listed in Appendix D. The peer

victimization measure and the importance measure are not under investigation in the current study.

At the conclusion of the administration of interview two, the interviewer stressed the issue of confidentiality, and again made sure that the child understood that he or she was not to share responses with other children, but should talk with an adult (such as a teacher or parent), if the need arose. The interviewer thanked the child for participating and offered the child a choice of treat, such as a colorful pencil, in appreciation for the child's participation. The child was then walked back to class and engaged in casual conversation about the activities the child enjoyed most during the interview.

### *Measures*

#### *Peer Acceptance Ratings*

A sociometric peer rating measure, similar to that used by Singleton and Asher (1977), was used to determine children's level of acceptance for each classroom peer. The measure used in the current study consists of asking each child whether he or she likes other classroom peers "a lot," "a little," or "the least." This procedure has been utilized widely (Terry, 2000), and provides a complete account of the extent to which each child accepts every other child in the classroom (Asher & Hymel, 1981). Peers designated as "liked a lot" received a rating of 3; those "liked a little" received a rating of 2, and those "liked the least" received a rating of 1. The ratings in this procedure, though ordinal level in nature, were treated as interval level data in the statistical analysis. For each child, a mean acceptance score was calculated based on ratings given by children participating in the study. The treatment of the data in this manner is consistent with that

of prior research (e.g. Asher & Hymel, 1981; Parker & Asher, 1993). The administration procedure for the peer acceptance measure can be found in Part 1 of Appendix F.

Compared with sociometric nominations, sociometric ratings are assumed to be more reliable (Asher & Hymel, 1981). Asher and Hymel found that sociometric ratings had higher test-retest reliability coefficients than nomination measures for elementary school children. In addition, sociometric ratings can potentially allow for greater differentiation in children's perceptions of peers (Terry, 2000).

*Peer Nominations: Available Peer Social Support, Perceived Available Peer Social Support, Mutual Friendship, and the Match between Perceived Available Social Support and Available Peer Social Support*

The peer nomination measure used in the current study consists of asking children to nominate peers according to specific criteria. The Perceived Classroom Peer Social Support Scale (Teglasi & Lanier, unpublished) was administered to calculate Available Peer Social Support, Perceived Available Peer Social Support, Mutual Friendship, and the match between nominations given for Perceived Available Social Support and those received for Available Support. (See Appendix H for the Perceived Classroom Peer Social Support Scale). The items of the Perceived Classroom Peer Social Support Scale were combined with 20 additional items from several other published scales (i.e. Crick & Werner, 1998; Perry, Kusel, & Perry, 1988). The additional items were designed to measure bullying, victimization, and helping behavior, and are not under investigation in the current study.

Prior to administering the nomination measure, two practice items were administered to ensure that the child understood the procedure. Each child's peer

nominations were recorded with “tally marks” on a Sociometric Administration Form. (See Appendix F, part 2, for the nomination administration procedure. See Appendix G for the sociometric administration form). All nomination items were presented in a pre-determined and randomized order, using an “unlimited choice” peer nomination procedure that allowed each child to nominate an unlimited number of classroom peers for each item. After comparing a limited choice procedure with an unlimited choice procedure, Terry (2000) found the unlimited choice procedure to be statistically preferable to a limited choice procedure, as unlimited choice results were found to have a much greater range of values and more normal distributional properties.

Typically, sociometric nomination research is accomplished without the use of standardized or commercially published measures. Internal consistency in sociometric measures has been rarely evaluated due to the argument that agreement among nominators in sociometric choices is not expected (Terry, 2000). Also, as opposed to test-retest reliability, the stability of sociometric measures is typically assessed in intervals ranging from three months to two years (Terry, 2000). Sociometric nomination and rating measures are, however, considered to be both reliable and valid in measuring peer relationships for elementary school children (Asher & Hymel, 1981). The variables assessing the constructs currently under study were calculated using the following five items only of the Perceived Classroom Peer Social Support Scale:

1. Kids you would help
2. Kids who would make you feel better if you were upset
3. Kids who would try to help you if someone was mean to you
4. Kids you would ask to help you with a problem

## 5. Kids who are your good friends

Next, a summary is provided of each variable calculated using sociometric nominations.

*Available Peer Social Support (APSS).* The item *kids you would help* was designed to measure available classroom peer support in the classroom through an analysis of the nominations each child *received* for this particular item. By investigating the proportion of nominations each participant *received* from classroom peers participating in the study who said they were willing to help that particular child, it was possible to evaluate the extent to which support was *available* in the classroom for each study participant. (See Table 5.)

*Perceived Available Peer Social Support (PAPSS).* The items *kids who would make you feel better if you were upset*, *kids who would try to help you if someone was mean to you*, and *kids you would ask to help you with a problem*, were designed to measure children's perceptions of the availability of social support in the classroom through an analysis of the proportion of nominations each child *gave* for these particular items. These items primarily gauge perceptions of available emotional/psychological support (i.e. *kids who would try to make you feel better if you were upset*), available social/interpersonal support (i.e. *kids who would try to help you if someone was mean to you*), and available general social support (i.e. *kids you would ask to help you with a problem*).

For each item, perceived available social support was measured in terms of the proportion of nominations given by each study participant out of the number of children in the class. Based on the scores for each item, an overall average perceived available social support score was computed. (See Table 3.) As this particular variable is computed



based on the average proportion of nominations given for each of the three items, internal consistency was calculated. The Cronbach's alpha coefficient for the sample was found to be acceptable at .85. The mean inter-item correlation was also acceptable at .65.

*Mutual Friendship.* The item *kids who are your good friends* was designed to measure children's perceptions of friendship in the classroom. Mutual friendships were determined in terms of the number of reciprocal friendship nominations as well as the proportion of friendship nominations reciprocated amongst those participating in the study. (See Table 6.)

*The Match between Perceived Available Peer Social Support and Available Peer Social Support (PAPSS-APSS).* The match between perceived available peer social support and available support from peers was explored by examining the match between nominations given by each study participant of peers that the individual child believed would help them or that they would seek help from (i.e. perceived available peer social support), and those received from peers who nominated the individual child as one that they *would help* (i.e. available support). The match was determined in terms of the number of matched nominations as well as the proportion of matches. (See Table 7.)

Internal consistency was calculated for both the number and proportion of matches across nominations. Cronbach's alpha coefficient for the number of matches was found to be acceptable at .81. Cronbach's alpha coefficient for the proportion of matches was found to be much lower at .43. The mean inter-item correlation for the number of matches was found to be .59 while the mean inter-item correlation for the proportion of matches was .20. According to Briggs and Cheek (1986), an inter-item correlation of .20 falls within an acceptable range, particularly for scales that are short in length.

Table 3  
*Perceived Available Peer Social Support*

<b>Variable</b>	<b>Definition</b>	<b>Calculation</b>
Perceived Available Peer Social-Interpersonal Support	Proportion of nominations out of the class given for the item, “kids who would try to help you if someone was mean to you”	Nominations given by each child were added and then divided by the number of children in the class to determine the proportion.
Perceived Available Peer Emotional-Psychological Support	Proportion of nominations out of the class given for the item, “kids who would try to make you feel better if you were upset”	(same as above)
Perceived Available Peer General Social Support	Proportion of nominations out of the class given for the item, “kids you would ask to help you with a problem”	(same as above)
Overall Perceived Available Peer Social Support	Overall average proportion of nominations for all three items above.	Based on the calculations described above, an average score was calculated.

Table 4  
*Peer Acceptance*

<b>Variable</b>	<b>Definition</b>	<b>Calculation</b>
Overall Peer Acceptance	Ratings received by study participants in terms of how much each child is “liked” on a scale of 1 to 3.	Children rated as liked a lot received a rating of 3, those rated as liked a little received a rating of 2, and those rated as liked the least received a rating of 1. An average acceptance score was calculated for each child in the class.

Table 5  
*Available Peer Social Support*

<b>Variable</b>	<b>Definition</b>	<b>Calculation</b>
Available Peer Social Support (proportion)	Proportion of nominations out of study participants received for the item, “kids you would help”	Nominations received by each child out of study participants were added and then divided by the number of study participants in the class to determine the proportion.

Table 6  
*Mutual Friendship*

<b>Variable</b>	<b>Definition</b>	<b>Calculation</b>
Mutual Friendship (number)	The number of matches across nominations given (out of study participants) for the item, “kids who are your good friends” and nominations <i>received</i> from study participants for the same item.	Nominations given by each child (among study participants) were compared with those received (among study participants) and the number of reciprocal nominations was determined.
Mutual Friendship (proportion)	(Same as above except based on proportions.)	The proportion of reciprocal nominations was determined by dividing the number of reciprocal nominations by the number of nominations each child gave out of study participants.

Table 7  
*The Match between Perceived Available Peer Social Support and Available Peer Social Support*

<b>Variable</b>	<b>Definition</b>	<b>Calculation</b>
Match between Perceived Available Peer Social/Interpersonal Support and Available Peer Social Support (number)	The number of matches across nominations given (out of study participants) for the item, “kids who would try to help you if someone was mean to you” and nominations <i>received</i> from study participants for the item, “kids you would help”	Nominations given by each child (among study participants) were compared with nominations received from study participants to determine the number of matches.
Match between Perceived Available Peer Social/Interpersonal Support and Available Peer Social Support (proportion)	(Same as above except based on proportions.)	The proportion of matched nominations was determined by dividing the number of matches by the number of nominations each child gave out of study participants.
Match between Perceived Available Peer Emotional/Psychological Support and Available Peer Social Support (number)	The number of matches across nominations given (out of study participants) for the item, “kids who would try to make you feel better if you were upset” and nominations <i>received</i> from study participants for the item, “kids you would help”	Nominations given by each child (among study participants) were compared with nominations received from study participants to determine the number of matches.
Match between Perceived Available Peer Emotional/Psychological Support and Available Peer Social Support (proportion)	(Same as above except based on proportions.)	The proportion of matched nominations was determined by dividing the number of matches by the number of nominations each child gave out of study participants.

Table 7 (Continued)

Match between Perceived Available Peer General Social Support and Available Peer Social Support (number)	The number of matches across nominations given (out of study participants) for the item, “kids you would ask to help you with a problem” and nominations <i>received</i> from study participants for the item, “kids you would help”	Nominations given by each child (among study participants) were compared with nominations received from study participants to determine the number of matches.
Match between Perceived Available Peer General Social Support and Available Peer Social Support (proportion)	(Same as above except based on proportions.)	The proportion of matched nominations was determined by dividing the number of matches by the number of nominations each child gave out of study participants.
Overall Match between Perceived Available Peer Social Support and Available Peer Social Support (number)	Average number of matches across all three sets of items described previously.	An overall average number of matches was calculated based on the variables listed above.
Overall Match between Perceived Available Peer Social Support and Available Peer Social Support (proportion)	Average proportion of matches across all three sets of items described previously.	An overall average of the proportion of matches was calculated based on the variables listed above.

*Self-Reported Negative Emotions*

Several self-report measures were administered to measure negative emotion in children including anxiety, depression, and anger. For the purpose of the statistical analyses, these measures were combined into a composite variable to measure self-reported negative emotions. Each individual measure described below uses the same T-score scale (i.e.  $M = 50$ ;  $SD = 10$ ) which is based on the norms for each respective standardization. The Self-Reported Negative Emotions composite variable was calculated by summing the total scores of the individual measures together, transforming the result by class to z-scores, and then converting the z-scores back to T-scores (with  $M = 50$ ;  $SD$

= 10). (This last step was undertaken in order to aid interpretation.) Descriptions of each individual measure are described next.

*Multidimensional Anxiety Scale for Children, short form (MASC-10; March, 1997).* The MASC-10 is a 10-item, self-report measure of general anxiety symptoms in children including social anxiety, separation anxiety, harm avoidance, and physical symptoms. The MASC-10 was derived from the MASC (Multidimensional Anxiety Scale for Children; March, 1998), and was designed for use in repeated testing and outcome studies. For each item, children are asked to indicate whether the statement is “never true about me,” “rarely true about me,” “sometimes true about me,” or “often true about me.” Each item is rated on a 4-point scale ranging from 0 (“never true about me”) to 3 (“often true about me”). A total raw score is calculated by summing all items, which is then converted to a T-score ( $M = 50$ ;  $SD = 10$ ).

Using a normative sample of 2,698 children, March (1997) found internal reliability for the MASC-10 to be .67 for children ages 8-11 using Cronbach’s alpha. Test-retest reliability for the MASC-10 coefficients for a 3-month period ranged from .69 to .93. Also, the correlation of the MASC-10 with the total anxiety scale was found to be .90. In the current study, Cronbach’s alpha was found to be comparable to that reported by March at .66.

*Children’s Depression Inventory, short form (CDI-S; Kovacs, 1992).* The CDI-S is a 10-item self-report measure of depressive symptomology in children, and is designed to be used with children and adolescents, ages 7 through 17. The CDI-S is derived from the Children’s Depression Inventory (CDI; Kovacs, 1992). Children are asked to pick one of three items such as “I am sad once in a while,” “I am sad many times,” and “I am sad

all the time,” according to which statement best describes him or her for the past 2 weeks. Each item consists of three choices scored 0, 1, or 2 corresponding to the absence of the symptom, a mild symptom, or a definite symptom. A total raw score is determined for each child, and then converted to a T-score ( $M = 50$ ;  $SD = 10$ ).

Kovacs (1992) found the total scores of the CDI and the CDI-S to be highly correlated at .89. Acceptable internal consistency for the CDI-S was demonstrated by a Cronbach’s alpha of .79. Finch, Saylor, and Edwards (1985) explored the psychometric properties of the CDI using a normative sample of 1,266 students in grades 2 through 8. Cronbach’s alpha for the CDI was found to equal .86. Item-total correlations using data from the normative sample ranged from .22 to .54. According to Kovacs (1992), validity of both the CDI and the CDI-S has been established in hundreds of studies since its initial development, and both measures have been shown to be useful in explaining and characterizing symptoms of depression in children. Strong correlations have been demonstrated with measures of anxiety and self-esteem (Green, 1980; Friedman & Butler, 1979), and good discriminant validity has been reported by Hodges (1990) as well as Smith, Mitchell, McCauley, and Calderon (1990). In the current study, the internal consistency of the CDI-S was found to be .57 as measured by Cronbach’s alpha.

*Children’s Inventory of Anger (ChIA; Nelson & Finch, 2000)*. The Children’s Inventory of Anger is a 39-item self-report measure of anger in children. The ChIA includes four subscales including Frustration, Physical Aggression, Peer Relationships, and Authority Relations. For each item, children are asked to select a statement, accompanied with a pictorial representation of increasing anger levels that represents how he or she would feel in the situation presented. The statements include “I don’t

care,” “that bothers me,” “I’m really angry,” and “I can’t stand that!” Responses are scored on a 4-point scale with values ranging from 1 to 4, corresponding to the level of anger indicated. Raw scores for the total scale and for each subscale are converted to T-scores ( $M = 50$ ;  $SD = 10$ ).

Reliability of the ChIA was examined by Nelson and Finch (2000) using a normative sample of 1,604 children, ages 6 – 16. The alpha coefficient for the ChIA total score was found to be .95, with subscale alpha coefficients ranging from .85 to .86. The test-retest correlation for the total score was found to be .75, while those for the subscales ranged from .65 to .75. Acceptable internal consistency reliability was demonstrated in the current study with a Cronbach’s alpha coefficient of .94.

#### *Teacher-Rated Internalizing, Externalizing, and School Problems*

Teachers of participating classrooms completed the Behavior Assessment Scale for Children (BASC, Reynolds & Kamphaus, 1994) for each child participating in the study. This measure is described next.

*Behavior Assessment Scale for Children, Teacher Rating Scale, child form* (BASC, TRS-C). The BASC contains 148 items that provide descriptions of children’s behavior. For each description, teachers are asked to rate the child on a 4-point scale representing the options “never,” “sometimes,” “often,” and “almost always.” The form used in the current study was designed for rating children ages 6 – 11. The BASC is composed of several clinical subscales including Aggression, Anxiety, Attention Problems, Atypicality, Conduct Problems, Depression, Hyperactivity, Leadership, Learning Problems, Somatization, and Withdrawal. The BASC also includes adaptive subscales including Adaptability, Leadership, Social Skills, and Study Skills.

The clinical and adaptive scales may be combined together to form broad composites as follows: Externalizing Problems (i.e. Hyperactivity, Aggression, and Conduct Problems), Internalizing Problems (i.e. Anxiety, Depression, and Somatization), School Problems (i.e. Attention Problems and Learning Problems), Adaptive Skills (i.e. Adaptability, Social Skills, Leadership, and Study Skills), and the Behavioral Symptoms Index (i.e. Aggression, Hyperactivity, Anxiety, Depression, and Atypicality). The raw scores for each scale and composite are converted to T-scores. The current investigation will only utilize the following composites in the statistical analyses: Externalizing Problems, Internalizing Problems, and School Problems.

Using a normative sample of over 2000 children ages 4 – 18, from 116 testing sites, Reynolds and Kamphaus (1994) found average internal consistencies for the BASC, TRS ranging from .82 to .90 for all age levels. Internal consistencies for the composite scales were found to have a coefficient alpha of not less than .90. The median value of the test-retest correlation was found to be .92, and ranged from .81 to .96 for the composite scales. Interrater reliability on the BASC, TRS-C composites were found to range from .69 to .89. In the current study, internal consistency reliability estimates for the Externalizing Problems, Internalizing Problems, and School Problems composites were found to have a coefficient alpha of not less than .89.

### *Self-Concept*

Children's individual perceptions of themselves were measured using Harter's Self-Perception Profile for Children (SPPC; Harter, 1985), a self-report inventory designed to measure elementary school children's self-perceptions. The SPPC is a self-report inventory designed to measure elementary school children's self-perceptions with



respect to certain aspects of their lives, and is designed for children in grades 3 through 6. The SPPC is composed of 36 items and 4 subscales including Scholastic Competence, Social Acceptance, Behavioral Conduct, and Global Self-Worth. Each subscale is composed of six items. The current investigation utilizes the Global Self-Worth scale only in the statistical analyses. The items of the SPPC are scored on a scale of 1 to 4, with higher numbers representing a more positive self-concept. For each child, the total score for each subscale was calculated by averaging the scores within each subscale.

The Peer-Victimization and Bullying-Behavior Scales (Austin & Joseph, 1996) were embedded in the SPPC. The Peer-Victimization and Bullying Behavior Scales consist of two scales, each with six items that were designed to be immersed in a counterbalanced fashion within the SPPC (Harter, 1985). The items of the SPPC and the Peer-Victimization and Bullying Behavior Scales were combined in a questionnaire titled “What Am I Like.” (The Peer-Victimization and Bullying Behavior Scales are not under investigation in the current study.)

The format of the SPPC is designed to control for socially desirable responses by presenting both positive and negative characteristics in a manner that makes either choice acceptable such as “*Some kids find it hard to make friends but other kids find it very easy to make friends*” (Harter, 1985). After choosing which statement is most like him or herself, children are then asked to select whether the statement is “really true for me” or “sort of true for me.” The SPPC was originally intended to be administered in a traditional paper and pencil format. However, Marsh, Craven, and Debus (1998) demonstrated reliability using the interview format with children between the ages of 5

and 8. Also, an interview format was necessary in order to administer the Self-Understanding scale of this measure, which is described next.

At the conclusion of the SPPC, a Self-Understanding scale was administered in interview format using one specific and most representative item from each subscale. These particular items are used to ask questions such as “what is the main reason why it is *really true* that you that...,” “what makes you think it is only *sort of true* for you that...,” or “how can you tell that...” Responses for the Self-Understanding scale were recorded and transcribed verbatim. (Interview data from the Self-Understanding scale of the SPPC are not under investigation in the current study).

Harter (1985) used a combined sample of 1,543 children in grades 3 through 8 to determine the psychometric properties of the SPPC. Based on Cronbach’s alpha, internal consistency for the Scholastic Competence, Social Acceptance, Behavioral Conduct, and Global Self-Worth subscales was found to be .82, .78, .74, and .80 respectively. In addition, factor analyses revealed a strong factor pattern among the subscales with no cross loadings greater than .18. In the current study, acceptable internal consistency was established for the Global Self-Worth subscale by a Cronbach’s alpha coefficient of .75.

#### *Children’s Understanding of Social Support in the Classroom*

A qualitative measure was administered at the conclusion of the sociometric nomination procedure to investigate children’s understanding of support in the school environment. Each child was asked the following questions:

1. Have you helped other kids in your class? How?
2. Have other kids in your class helped you? How?

All responses were recorded verbatim and audiotaped for the purposes of accuracy in transcription. (A description of the administration procedure is provided in Part 3 of Appendix F). Each child's answer was reviewed in order to formulate broad categories denoting the type of support described as given and received. The categories included Social/Emotional, Material/Physical, and Academic Support. These broad categories were further divided into sub-categories for specific types of helping. The Social/Emotional category was divided into the categories Social/Interpersonal, Friendship, Emotional/Psychological, Missed Information, and General (non-academic) Information. The Material/Physical category was divided into the categories Physical, School Materials, and Incidental. The Academic category was divided into the categories Specific Help and Learning. Responses indicating that help was neither given nor received, or for which the child offered no explanation were placed in the category "No Category." Also, some individual children described multiple types of support when responding. Therefore, all responses were coded regardless of whether the child gave a response corresponding to one category or several. (Note that if the child gave several examples that corresponded to only one type of support, the response only counted once.) Because the data was treated in this fashion, the total number of responses exceeded the number of children participating. See Appendix H for the Coding Scheme and corresponding sample responses.

To establish interobserver agreement, approximately half of the total responses were coded by two independent raters. Because some children gave several responses, each response could receive more than one code. Agreement was defined as both raters giving the same code for the broader and specific categories, and for all parts of a

response. Overall agreement was found to be 93% across the three broad categories. Agreement across all categories was found to be 91%. The remaining responses were then coded using the coding scheme. After each child's responses were coded, the sum of responses for each sub-category was recorded, along with an overall total for each broad category.

## CHAPTER 4

### Results

The central priority of this study was to investigate whether elementary school children's adjustment is more closely linked to their individual perceptions of themselves and of the supportiveness of others, the support available from classroom peers, or the congruence (i.e. "match") between the perspectives of the individual perceiver of support and the potential providers of support. This study also sought to investigate how children conceptualize support within the context of the elementary school classroom. Results of preliminary analyses are discussed first followed by the primary research question and corresponding statistical analyses. Finally, case studies are presented to illustrate the relationship between perceived available peer social support and various aspects of children's adjustment in the classroom.

Standard multiple regression procedures were used to address the primary research question. On an a priori basis, all variables assessing *individual perceptions*, *available classroom support*, and the *congruence between the perspective of the individual and the potential providers of support* were conceptualized as predictor variables (i.e. independent) for possible inclusion in the primary analyses. Therefore, in order to aid clarity and facilitate discussion, these variables are initially referred to as "predictors" regardless of whether they were ultimately selected for inclusion in the regression analyses. On the other hand, variables assessing teacher-rated adjustment and self-rated negative emotions were conceptualized as outcome (i.e. dependent) variables. However, the individual measures of self-rated negative emotions were ultimately combined into a composite variable (i.e. Self-Reported Negative Emotions; SRNE).

Recall that the SRNE composite variable was created by summing the total scores of the individual measures of negative emotion together, transforming the result to z-scores, and then converting the z-scores back to the original T-score scale (i.e.  $M = 50$ ;  $SD = 10$ ). The SRNE composite was found to be better related to the predictors than the individual measures. Creating a composite variable also served to reduce the ultimate number of regression analyses, thereby limiting the possibility of statistical error. However, the reader should note that the preliminary analyses primarily include the individual measures of self-reported negative emotions although the SRNE composite variable is included where appropriate. In the primary analyses, only the SRNE composite variable is included.

#### *Preliminary Analyses*

*Stability of Means.* Recall that data were collected initially in the fall and again in the spring of the school year. The majority of means were found to be stable across the school year. However, the means for several of the sociometric variables in this study were found to increase significantly by the spring of the school year. A slight increase was also found in teacher's ratings of internalizing problems. However, given the relatively small size of the mean difference and small effect size, this particular finding is not thought to be particularly meaningful. By the end of the school year, children were willing to help a greater proportion of their peers and they had more mutual friendships. Therefore, given the positive development of children's classroom relationships over time, the data collected in the spring of the school year was used for addressing this study's primary research question. Descriptive statistics for the variables at each time are presented in Table 8. In order to explore the stability of the means over time, paired

samples t-tests were used to compare means in the fall (i.e. Time 1) with means in the spring (i.e. Time 2). (See Table 9). Note that tables 8 and 9 contain statistics for the variables prior to any variable transformations or standardization techniques. (These techniques were employed later to address differences in class size, potential differences in classroom climate, and non-normality in several of the variables.)

With respect to individual perceptions, children rated themselves fairly high in self-concept at both times (T1,  $M = 3.26$ ,  $SD = .65$ ; T2,  $M = 3.20$ ,  $SD = .74$ ) and their scores were stable across the year [ $t(96) = .53$ ,  $p = .59$ ]. (Recall that the items of this particular scale are scored on a scale of 1 to 4, with higher numbers representing a more positive self-concept.) Children perceived available peer social support (i.e. PAPSS-%) from 16% and 18% of their classmates respectively at time 1 and time 2 (T1,  $M = .16$ ,  $SD = .16$ ; T2,  $M = .18$ ,  $SD = .18$ ). These proportions were stable across the school year [ $t(97) = 1.29$ ,  $p = .20$ ].

In terms of the peer support available in the classroom, children reported generally liking one another in terms of the Peer Acceptance ratings given to their classmates and the ratings remained stable across the school year (T1,  $M = 2.26$ ,  $SD = .31$ ; T2,  $M = 2.24$ ,  $SD = .33$ ;  $t(98) = .465$ ,  $p = .64$ ). (Recall that peers designated as “liked a lot” received a rating of 3; those “liked a little” received a rating of 2, and those “liked the least” received a rating of 1). Although the peer acceptance ratings were relatively unchanged by the spring, the proportion of children who said they were available to help each individual child (i.e. Available Peer Social Support) increased significantly by the spring from an average of 27% (of participants) at time 1 to 38% (of participants) at time 2 [T1,  $M = .27$ ,  $SD = .11$ ; T2,  $M = .38$ ,  $SD = .01$ ;  $t(98) = 9.36$ ,  $p =$

.00] and this effect size was fairly substantial ( $d = 1.38$ ). Therefore, although the children were not actually *liked* by their classmates more over the course of the school year, the proportion of peers willing to help them increased quite a bit over time.

With respect to the congruence between the perspectives of each individual child and his or her classmates, children were found to have at least 2 mutual friendships at both times. Also, the number of mutual friendships increased significantly by the spring [T1,  $M = 2.10$ ,  $SD = 1.55$ ; T2,  $M = 2.66$ ,  $SD = 1.56$ ;  $t(94) = 2.79$ ,  $p = .01$ ], and the effect size was moderate ( $d = .36$ ). Even so, given the link between friendship and adjustment, a moderate increase in the number of reciprocal friendships is considered here to be meaningful. An increase in the number of mutual friendships should correspond to an increase in the proportion of mutual friendships and this was the case although the increase was slight. However, the increase in the proportion of mutual friendships was not found to be statistically significant [T1,  $M = .48$ ,  $SD = .33$ ; T2,  $M = .55$ ,  $SD = .30$ ;  $t(94) = 1.33$ ,  $p = .19$ ]. Recall that the proportion of mutual friendships is calculated by dividing the number of *potential* reciprocal nominations by the actual number of reciprocal nominations. The number of potential reciprocal nominations corresponds to the number of nominations each child gave (amongst study participants) for friendship. Therefore, the proportion of mutual friendships provides a sense of the *accuracy* with which the children perceive mutual friendships in the classroom although constrained to include only the children participating in the study. At both times, approximately half of the children's nominations for friendship were reciprocated.

At both times, children were found to have an overall average of at least 1 match between nominations given for perceived available peer social support and nominations



received for available peer social support (i.e. PAPSS-APSS-#). The number of matches was found to increase significantly across the school year [T1,  $M = 1.00$ ,  $SD = 1.01$ ; T2,  $M = 1.60$ ,  $SD = 1.34$ ;  $t(95) = 4.47$ ,  $p = .00$ ], and a medium effect size was found ( $d = .51$ ). The same was true for the proportion of matches (i.e. the number of matched nominations out of those possible), [T1,  $M = .35$ ,  $SD = .26$ ; T2,  $M = .52$ ,  $SD = .27$ ;  $t(94) = 5.35$ ,  $p = .00$ ,  $d = .64$ ].

Although this particular variable (as calculated) appears to have face validity, the small number of overall matches obtained suggests that construct validity may be lacking. As well, the mean increase in the proportion of matches (.17) might appear to provide evidence that the children's ability to accurately perceive which peers are available to help them improves over time. However, it is important to keep in mind that children's perceptions of available peer social support (PAPSS-%) remained relatively unchanged whereas the support available to them increased substantially over time. Therefore, the increase in the number and proportion of matches between nominations given for perceived available peer social support and those received for available support is likely due to the increase in available support found by the spring of the school year.

At both times, the descriptive statistics for teacher's ratings of adjustment (i.e. the composites of the Behavior Assessment Scale for Children) all fell within the average range for each composite as indicated in the test manual (Reynolds & Kamphaus, 1992). Teacher ratings for externalizing problems (i.e. BASC-EXT) were consistent from the fall to the spring [T1,  $M = 44.53$ ,  $SD = 4.66$ ; T2,  $M = 44.89$ ,  $SD = 6.10$ ;  $t(98) = .70$ ,  $p = .48$ ]. This was also true for teacher's ratings of school problems (i.e. BASC-SP); [T1,  $M = 48.74$ ,  $SD = 8.38$ ; T2,  $M = 49.61$ ,  $SD = 9.02$ ;  $t(98) = 1.58$ ,  $p = .12$ ]. A slight increase

was found in teacher-rated internalizing problems (i.e. BASC-INT); [T1,  $M = 42.36$ ,  $SD = 3.87$ ; T2,  $M = 43.41$ ,  $SD = 5.55$ ;  $t(98) = 2.28$ ,  $p = .02$ ], although the effect size was small ( $d = .22$ ). Given the mean difference of .97, this does not appear to be particularly meaningful.

Finally, the overall means of children's self-ratings of negative emotions were all within the average range as indicated in each test manual (CDI-S, Kovacs, 1992; ChIA, Nelson & Finch, 2000; MASC-10, March, 1997). Overall scores for self-rated depression (i.e. CDI-S) were stable across the school year [T1,  $M = 47.60$ ,  $SD = 7.84$ ; T2,  $M = 46.96$ ,  $SD = 6.90$ ;  $t(96) = .90$ ,  $p = .37$ ]. Self-ratings for anger (i.e. ChIA) were also stable [T1,  $M = 46.36$ ,  $SD = 9.60$ ; T2,  $M = 45.42$ ,  $SD = 9.60$ ;  $t(96) = 1.35$ ,  $p = .18$ ]. This was true as well for self-ratings of anxiety (i.e. MASC-10); [T1,  $M = 55.94$ ,  $SD = 11.47$ ; T2,  $M = 53.50$ ,  $SD = 10.96$ ;  $t(96) = 1.84$ ,  $p = .07$ ].

Table 8  
*Descriptive Statistics for the Sample at Time 1 and Time 2*

	<b>Time 1 (N = 107)</b>				<b>Time 2 (N = 99)</b>			
<i>Individual Perceptions</i>								
	<i>Mean</i>	<i>SD</i>	<i>Min.</i>	<i>Max.</i>	<i>Mean</i>	<i>SD</i>	<i>Min.</i>	<i>Max.</i>
Self-Concept	3.26	.65	1.67	4.00	3.20	.74	1.17	4.00
PAPSS-%	.16	.16	.01	.95	.18	.18	.01	.95
<i>Available Classroom Support</i>								
	<i>Mean</i>	<i>SD</i>	<i>Min.</i>	<i>Max.</i>	<i>Mean</i>	<i>SD</i>	<i>Min.</i>	<i>Max.</i>
APSS-%	.27	.11	.06	.56	.38	.01	.20	.61
Peer Acceptance	2.26	.31	1.50	2.91	2.24	.33	1.40	2.76
<i>Congruence between the Perspective of the Individual and the Potential Providers of Support</i>								
	<i>Mean</i>	<i>SD</i>	<i>Min.</i>	<i>Max.</i>	<i>Mean</i>	<i>SD</i>	<i>Min.</i>	<i>Max.</i>
Mutual Friendship-#	2.10	1.55	0.00	6.00	2.66	1.56	0.00	6.00
Mutual Friendship-%	.48	.33	0.00	1.00	.55	.30	0.00	1.00
PAPSS-APSS-#	1.00	1.01	0.00	6.00	1.60	1.34	0.00	5.00
PAPSS-APSS-%	.35	.26	0.00	1.00	.52	.27	0.00	1.00
<i>Teacher-Rated Adjustment</i>								
	<i>Mean</i>	<i>SD</i>	<i>Min.</i>	<i>Max.</i>	<i>Mean</i>	<i>SD</i>	<i>Min.</i>	<i>Max.</i>
BASC-EXT	44.53	4.66	40.00	59.00	44.89	6.10	40.00	71.00
BASC-INT	42.36	3.87	39.00	58.00	43.41	5.55	39.00	65.00
BASC-SP	48.74	8.38	35.00	71.00	49.61	9.02	35.00	78.00
<i>Self-Reported Negative Emotions</i>								
	<i>Mean</i>	<i>SD</i>	<i>Min.</i>	<i>Max.</i>	<i>Mean</i>	<i>SD</i>	<i>Min.</i>	<i>Max.</i>
CDI-S	47.60	7.84	40.00	84.00	46.96	6.90	40.00	72.00
ChIA	46.36	9.60	25.00	70.00	45.42	9.60	28.00	70.00
MASC-10	55.94	11.47	29.00	83.00	53.50	10.96	30.00	79.00

Note. PAPSS = Perceived Available Peer Social Support; APSS = Available Peer Social Support; PAPSS-APSS = Match between Perceived Available Peer Social Support and Available Peer Social Support; BASC-EXT = BASC Externalizing Problems; BASC-INT = BASC Internalizing Problems; BASC-SP = BASC School Problems; CDI-S = Children's Depression Inventory, short form; ChIA = Children's Inventory of Anger; MASC-10 = Multidimensional Anxiety Scale for Children, 10-item report.

Table 9  
*Stability of Means – Paired Samples T-Tests*

Source	Mean Difference	Standard Error of Mean	<i>df</i>	<i>t</i>	<i>p</i>	<i>d</i>
Self-Concept	.06	.01	96	.53	.59	
PAPSS-%	.02	.02	97	1.29	.20	
APSS-%	.11	.02	98	9.36	.00	1.38
Peer Acceptance	-.02	.02	98	.46	.64	
Mutual Friendship-#	.56	.19	94	2.79	.01	.36
Mutual Friendship-%	.07	.04	94	1.33	.19	
PAPSS-APSS-#	.60	.15	95	4.47	.00	.51
PAPSS-APSS-%	.17	.00	94	5.36	.00	.64
BASC-EXT	.28	.39	98	.70	.48	
BASC-INT	.97	.43	98	2.28	.02	.22
BASC-SP	.92	.58	98	1.58	.12	
CDI	-.64	.81	96	.90	.37	
CHIA	-.94	.89	96	1.35	.18	
MASC	-2.44	1.40	96	1.84	.07	

Note. Effect sizes (*d*) are provided only for significant results.

PAPSS = Perceived Available Peer Social Support; APSS = Available Peer Social Support; PAPSS-APSS = Match between Perceived Available Peer Social Support and Available Peer Social Support; BASC-EXT = BASC Externalizing Problems; BASC-INT = BASC Internalizing Problems; BASC-SP = BASC School Problems; CDI-S = Children's Depression Inventory, short form; ChIA = Children's Inventory of Anger; MASC-10 = Multidimensional Anxiety Scale for Children, 10-item report.

*Stability of Sociometric Variables.* The sociometric variables in this study were further assessed for stability through correlational analyses of the means at time 1 with those at time 2 over the period of 8 months. The stability of sociometric measures is typically assessed in intervals ranging from three months to two years (Terry, 2000). As shown in Table 10, statistically significant and moderate size correlations were found for all sociometric variables. However, Peer Acceptance and Perceived Available Peer Social Support (PAPSS-%) were found to be the most stable over time, both with relatively minor differences in means from time 1 to time 2. Not surprisingly, relatively lower correlations were found for variables with means that increased significantly over the course of the school year. Therefore, the correlations between the variables, although

statistically significant, should be considered in light of the mean differences in addition to the size of the correlations.

Table 10  
*Stability of Sociometric Variables*

Variable	Mean Difference	<i>r</i>
PAPSS-%	.02	.50***
Peer Acceptance	-.02	.69***
APSS-%	.11**	.32**
Mutual Friendship-#	.56*	.34**
Mutual Friendship-%	.07	.32**
PAPSS-APSS-#	.60**	.47***
PAPSS-APSS-%	.17**	.21*

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Note. Time interval = 8 months. PAPSS = Perceived Available Peer Social Support; APSS = Available Peer Social Support; PAPSS-APSS = Match between Perceived Available Peer Social Support and Available Peer Social Support. The mean differences in the PAPSS-APSS variables are likely related to the increase in APSS over time.

*Variables Measuring Mutual Friendship and the Match between Perceived*

*Available Peer Social Support and Available Peer Social Support.* Because the variables measuring Mutual Friendship and the Match between Perceived Available Peer Social Support and Available Peer Social Support were assessed both in terms of the *number* of reciprocal nominations and matches, as well as the *proportion* of reciprocal nominations and matches (i.e. ratio of reciprocal nominations or matches to those possible), additional preliminary analyses were conducted to determine which type of measurement (i.e. numbers or proportions) would be most appropriate for inclusion in the primary analyses. The results of the following analyses suggested that assessing these particular constructs in terms of numbers was preferable.

Correlational analyses were used to assess and compare the strength of the relationship between the variables described above and the measures of adjustment (see

Table 11). In addition, the variables measuring the match between perceived available peer social support and available peer social support were assessed for internal consistency reliability. (Internal consistency reliability analysis was not conducted for the variables assessing mutual friendship as these variables are composed of just one item.) The number of mutual friendships was found to be better related to the measures of adjustment as compared to the proportion of mutual friendships. Neither of the variables assessing the match between perceptions of available peer social support and available peer social support was found to be strongly related to the measures of adjustment. However, in comparison with the proportion of matches, the number of matches was found to have better internal consistency reliability.

The number of mutual friendships was significantly and negatively correlated with teacher-rated externalizing problems ( $p < .05$ ), teacher-rated internalizing problems ( $p < .01$ ), teacher-rated school problems ( $p < .01$ ), and self-reported negative emotions ( $p < .05$ ). In comparison, the proportion of mutual friendships was significantly and negatively correlated with teacher-rated internalizing problems ( $p < .05$ ) and teacher-rated school problems ( $p < .01$ ) only. The number of matches across nominations given for perceived available peer social support and those received for available peer social support (PAPSS-APSS-#) was significantly and negatively correlated with teacher-rated externalizing problems only ( $p < .05$ ). Significant correlations were not found between the number of matches and any of the remaining outcome variables. As well, significant correlations were not found between the proportion of matches (PAPSS-APSS-%) and any of the outcome variables.

Table 11

*Correlations between Friendship Variables and Measures of Adjustment, and PAPS-APSS Variables and Measures of Adjustment*

	Mutual Friendship-#	Mutual Friendship-%	PAPSS-APSS-#	PAPSS-APSS-%
BASC-EXT	-.25*	-.16	-.27*	-.15
BASC-INT	-.35**	-.31*	-.13	-.12
BASC-SP	-.43**	-.43**	-.01	-.13
CDI-S	-.15	-.10	-.01	-.16
ChIA	-.19	-.18	-.13	-.08
MASC-10	-.13	-.05	-.00	-.02
SRNE	-.23*	-.16	-.06	-.00

\* $p < .05$ , \*\* $p < .01$

Note. BASC-EXT = BASC Externalizing Problems; BASC-INT = BASC Internalizing Problems; BASC-SP = BASC School Problems; CDI-S = Children's Depression Inventory, short form; ChIA = Children's Inventory of Anger; MASC-10 = Multidimensional Anxiety Scale for Children, 10-item report; SRNE = Self-Reported Negative Emotions, a composite of the CDI-S, ChIA, and MASC.

Internal consistency was calculated for both the number and proportion of matches between nominations for perceived available peer social support and those received for available peer social support (see Table 12). Here, internal consistency is a measure of how consistently each child's nominations of peers across each of the three items included in the variable Perceived Available Peer Social Support are congruent with nominations received from peers for Available Peer Social Support (in terms of both numbers and proportions). Cronbach's alpha for the number of matches was found to be acceptable for the total sample at both times (time 1  $\alpha = .80$ , time 2,  $\alpha = .81$ ) and comparable levels were found across gender and grade. However, the alpha levels for the proportion of matches were found to be much lower (total sample,  $\alpha = .43$ ).

Table 12

*Internal Consistency of the Match between Perceived Available Peer Social Support and Available Peer Social Support in terms of Numbers and Proportions*

	<i>n</i>	Cronbach's alpha	
		<u>PAPSS-APSS-#</u>	<u>PAPSS-APSS-%</u>
<u>Gender</u>			
M	58	.76	.28
F	41	.86	.59
<u>Grade</u>			
2	56	.77	.36
3	43	.81	.55
Total Sample	99	.81 (.80)	.53 (.48)

Note: The alpha levels for the total sample at time 1 are in parentheses.

*Variables Measuring Perceived Available Peer Social Support and Available Peer Social Support.* In contrast to the variables discussed above, the variables Perceived Available Peer Social Support and Available Peer Social Support were assessed strictly in terms of proportions (as opposed to the number of nominations) due to greater construct validity. For example, knowing that an individual nominated a total of three peers for perceived available peer social support is not as meaningful as knowing that three were nominated out of a classroom of twenty. Therefore, evaluating Perceived Available Peer Social Support as a proportion of nominations out of students in the class is consistent with the definition of perceived available social support as conceptualized in this study. This line of reasoning also follows for assessing Available Peer Social Support as a proportion of nominations received out of participating children. Simply knowing the number of nominations received for available peer support is not particularly meaningful. However, knowing that a certain proportion of nominations were received for available support (out of those participating in the study) has comparably greater construct validity.



The variable assessing Perceived Available Peer Social Support (i.e. PAPSS-%) was also found to have acceptable internal consistency reliability for the total sample ( $\alpha = .85$ ) as well as by gender, although internal consistency reliability for second graders was lower as compared with third graders (see Table 13). Although internal consistency of sociometric nomination measures is typically not evaluated (Terry, 2000), internal consistency for the variable PAPSS-% is a measure of how consistently each child nominated the same proportion of peers (out of the class) for each of the three items included in the variable.

Table 13  
*Internal Consistency for Perceived Available Peer Social Support (PAPSS-%) by Gender and Grade*

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<u>Gender</u>	<u><i>n</i></u>	<u>Cronbach's Alpha</u>
M	58	.79
F	41	.90

---

<u>Grade</u>	<u><i>n</i></u>	<u>Cronbach's Alpha</u>
2	56	.65
3	43	.89
Total Sample	99	.85

---

Item-total scale correlations were also examined to determine whether any items were not consistent with the PAPSS-% total scale. The item-total scale correlations, which were corrected for part-whole redundancy, were acceptable and ranged from .58 to .80 for the total sample (see Table 14). The item-total scale correlations for boys and girls were comparable. However, item-total scale correlations for second graders were lower than those for third graders.

Table 14

*Item-Total Scale Correlations for Perceived Available Peer Social Support (PAPSS-%)*

<u>Item</u>	<u>Total</u> <u>(N = 99)</u>	<u>Boys</u> <u>(n = 58)</u>	<u>Girls</u> <u>(n = 41)</u>	<u>2<sup>nd</sup> grade</u> <u>(n = 56)</u>	<u>3<sup>rd</sup> grade</u> <u>(n = 43)</u>
<i>C1: Kids who would try to help you if someone was mean to you</i>	.78	.74	.87	.60	.84
<i>C2: Kids who would try to make you feel better if you were upset</i>	.80	.81	.81	.64	.84
<i>C6: Kids you would ask to help you with a problem</i>	.58	.41	.77	.21	.73

The fairly high internal consistency for the PAPSS-% total scale provides some evidence for the homogeneity of content for the three items. However, additional analyses were conducted to determine how consistently children nominated the same peers across the items measuring Perceived Available Peer Social Support. As shown in Table 15, an overall average of 33 – 44% of the peers nominated were the same individuals across the three items. This suggests that children perceive support from a stable group of peers regardless of the specific type of support perceived to be available. On the other hand, the majority of peers viewed as available sources of support apparently varies, possibly as a function of the type of support perceived as needed. In other words, some peers may be viewed as available for providing specific types of support only.

Table 15  
*Consistency with which Children Nominated the Same Peers Across Items Measuring Perceived Available Social Support*

Items	<i>M</i>	<i>SD</i>	<i>Min.</i>	<i>Max.</i>
C1 and C2 <i>(Kids who would try to help you if someone was mean to you and Kids who would try to make you feel better if you were upset)</i>	.44	.35	0	1.00
C1 and C6 <i>(Kids who would try to help you if someone was mean to you and Kids you would ask to help you with a problem)</i>	.33	.28	0	1.00
C2 and C6 <i>(Kids who would try to make you feel better if you were upset and Kids you would ask to help you with a problem)</i>	.33	.29	0	1.00

*Relationships among Study Variables.* Given the exploratory nature of the use of sociometric nominations to evaluate perceptions of social support, correlational analyses were conducted to explore the relationships among the variables and to check for possible instances of multicollinearity among the predictors. It should be noted, however, that several of the predictor variables, in their original form, were not normally distributed. Therefore, as recommended by Hair, Anderson, Tatham, and Black (1998), mathematical transformations were performed to address non-normality. Specifically, the variable Perceived Available Peer Social Support required a logarithm transformation while the variable assessing the Match between Perceived Available Peer Social Support and Available Peer Social Support required a square root transformation.

Performing the logarithm or square root transformations created minor changes in the values of the correlations between these and the other variables although the pattern

of relationships remained the same. The predictor variables transformed in this manner were then converted to z-scores so that all predictors were ultimately in z-score form. The z-score conversion was performed on all predictors to address differences in class size and potential differences in classroom climate. Therefore, in the following discussion and corresponding tables, the statistics presented are those obtained after transforming the variables (either to z-scores only or to the square root/logarithm first and then z-scores). In Table 16, intercorrelations are provided between the predictor variables and variables measuring teacher-rated adjustment. Tables 17 and 18 provide intercorrelations between the predictor variables and variables measuring self-reported negative emotions.

Positive correlations were found among many of the predictor variables. The number of mutual friendships was found to correlate positively with Self-Concept, Perceived Available Peer Social Support (PAPSS-%), Available Peer Social Support (APSS-%), Peer Acceptance, and the Match between nominations given for Perceived Available Peer Social Support and those received for Available Peer Social Support (PAPSS-APSS-#). Self-Concept was found to correlate positively with all other predictors with the exception of APSS-%. The largest positive correlation was found between PAPSS-APSS-# and PAPSS-% ( $r = .81, p < .01$ ). Given that the variable PAPSS-APSS-# is based on information derived from PAPSS-%, the strength of the relationship between the two variables is not surprising. As described by Hair et al. (1998), variable centering techniques were used to reduce the potential impact of multicollinearity on the final results. However, centering the variables was not found to be helpful. For this reason the variable PAPSS-APSS-# was not included in the primary analyses.

As expected, the indices of teacher-rated problems were found to correlate negatively with many of the predictor variables. Teacher-rated externalizing problems (BASC-EXT) correlated negatively with PAPSS-%, APSS-%, Peer Acceptance, the number of Mutual Friendships, and PAPSS-APSS-#. Teacher-rated internalizing problems (BASC-INT) correlated negatively with Peer Acceptance and the number of Mutual Friendships. Finally, teacher-rated school problems (BASC-SP) correlated negatively with Self-Concept, Peer Acceptance, and the number of Mutual Friendships. Moderate-sized positive correlations were found among the teacher-ratings of adjustment.

As shown in Table 17, few significant correlations were found between the indices of self-rated negative emotions and the predictor variables. With exception, Self-Concept was found to correlate negatively with anger (ChIA) and depression (CDI-S). Amongst the individual measures of negative emotion, Depression was found to correlate positively with anger (ChIA) and anxiety (MASC-10). In Table 18, the correlations are displayed among the predictors and the composite variable Self-Reported Negative Emotions (SRNE), which is a combination of the individual measures of depression, anxiety, and anger. The SRNE composite was computed due to the relatively modest correlations of the individual measures of negative emotion and the predictors. In comparison, the SRNE composite was found to have comparably stronger correlations with the predictors. As shown in Table 18, both Self-Concept and the number of Mutual Friendships were found to correlate negatively with SRNE.

Table 16

*Intercorrelations between Predictor Variables and Teacher-Rated Problems (N=99)*

	1	2	3	4	5	6	7	8	9
1. Self-Concept	-								
2. PAPSS-%	.30**	-							
3. APSS-%	.08	.13	-						
4. Peer Acceptance	.26*	.16	.38**	-					
5. Mutual Friendship-#	.30**	.36**	.28*	.43**	-				
6. PAPSS-APSS-#	.25*	.81**	.30**	.19	.35**	-			
7. BASC-EXT	-.05	-.20*	-.25*	-.28**	-.25*	-.27*	-		
8. BASC-INT	-.16	-.21	-.14	-.33**	-.35**	-.13	.41**	-	
9. BASC-SP	-.30**	-.04	-.18	-.48**	-.43**	-.01	.36**	.54**	-

\* $p < .05$ , \*\* $p < .01$ 

Note. PAPSS = Perceived Available Peer Social Support; APSS = Available Peer Social Support; PAPSS-APSS = Match between Perceived Available Peer Social Support and Available Peer Social Support; BASC-EXT = BASC Externalizing Problems; BASC-INT = BASC Internalizing Problems; BASC-SP = BASC School Problems.

Table 17

*Intercorrelations between Predictor Variables and Individual Measures of Self-Reported Negative Emotions (N=99)*

	1	2	3	4	5	6	7	8	9
1. Self-Concept	-								
2. PAPSS-%	.30**	-							
3. APSS-%	.08	.13	-						
4. Peer Acceptance	.26*	.16	.38**	-					
5. Mutual Friendship-#	.30**	.36**	.28*	.43**	-				
6. PAPSS-APSS-#	.25*	.81**	.30**	.19	.35**	-			
7. MASC-10	-.17	-.10	.04	-.03	-.04	.01	-		
8. ChIA	-.39**	-.19	-.05	-.19	-.09	-.13	.15	-	
9. CDI-S	-.55**	-.07	.09	-.06	-.18	-.01	.25*	.23*	-

\* $p < .05$ , \*\* $p < .01$

Note. PAPSS = Perceived Available Peer Social Support; APSS = Available Peer Social Support; PAPSS-APSS = Match between Perceived Available Peer Social Support and Available Peer Social Support; CDI-S = Children's Depression Inventory, short form; ChIA = Children's Inventory of Anger; MASC-10 = Multidimensional Anxiety Scale for Children, 10-item report.

Table 18

*Intercorrelations between Predictor Variables and Self-Reported Negative Emotions Composite (N=99)*

	1	2	3	4	5	6	7
1. Self-Concept	-						
2. PAPSS-%	.30**	-					
3. APSS-%	.08	.13	-				
4. Peer Acceptance	.26*	.16	.36**	-			
5. Mutual Friendship-#	.30**	.36**	.28*	.43**	-		
6. PAPSS-APSS-#	.25*	.81**	.30**	.19	.35**	-	
7. SRNE	-.50**	-.17	.02	-.14	-.23*	-.06	-

\* $p < .05$ , \*\* $p < .01$ .

Note. PAPSS = Perceived Available Peer Social Support; APSS = Available Peer Social Support; PAPSS-APSS = Match between Perceived Available Peer Social Support and Available Peer Social Support; SRNE = Self-Reported Negative Emotions, a composite of the CDI-S, ChIA, and MASC-10.



*Group Differences.* One-way between groups analysis of covariance (ANCOVA) procedures were utilized to determine whether mean group differences existed on any of the variables under investigation with respect to the receipt of educational services, gender, and grade. In each analysis, the Time 1 variable served as the covariate while the Time 2 variable served as the dependent variable. The type of group served as the independent variable. Recall that some of the children participated in an unrelated pilot study involving an intervention group, a reading group, and a control group. These particular groups were created by assigning entire classrooms to one of the three conditions. Small differences were found by intervention group in Self-Concept only. However, because the groups were assigned according to classroom, there was no way to distinguish classroom climate effects from those possibly related to the intervention.

Significant mean group differences were not found on any of the variables between children receiving services (such as special education or ESOL services) and those who did not. Also, differences were not found according to gender. However, significant mean group differences were found in Self-Concept and Perceived Available Peer Social Support when analyses were conducted to investigate differences by grade (see Tables 19 - 21). After adjusting for Time 1 scores, third grade children had higher Self-Concept scores, although the effect size was small [ $F(1, 94) = 8.41, p = .00, \eta^2 = .08$ ; 2<sup>nd</sup> grade  $M = 3.02, SD = .77$ , 3<sup>rd</sup> grade  $M = 3.46, SD = .64$ ]. Third grade children were also found to have higher PAPS-% scores, although this effect size was also relatively small [ $F(1, 94) = 6.26, p = .01, \eta^2 = .06$ ; 2<sup>nd</sup> grade  $M = .14, SD = .12$ , 3<sup>rd</sup> grade  $M = .24, SD = .23$ ].

Table 19

*Analysis of Covariance for Grade – Self-Concept*

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	$\eta^2$
Self-Concept (Time 1)	2.42	1	2.42	4.88	.00	.05
Grade	4.17	1	4.17	8.41	.00	.08
Error	46.62	94	.50			

Note. Dependent Variable = Self-Concept (Time 2)

Table 20

*Analysis of Covariance for Grade – Perceived Available Peer Social Support (PAPSS-%)*

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	$\eta^2$
PAPSS-% (Time 1)	21.46	1	21.46	29.74	.00	.24
Grade	4.52	1	4.52	6.30	.01	.06
Error	68.56	95	.72			

Note. Dependent Variable = PAPSS-% (Time 2)

Table 21

*Descriptive Statistics by Grade - Self-Concept and Perceived Available Peer Social Support (PAPSS-%) at Time 2*

Variable	Second Grade ( <i>N</i> = 55)		Third Grade ( <i>N</i> = 42)	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
Self-Concept	3.02	.77	3.46	.64
PAPSS-%	.14	.12	.24	.23

### *Research Questions*

The primary research questions and corresponding statistical analyses addressed by the current study are presented next.

*Is children's adjustment more closely linked to individual perceptions (of themselves and of the supportiveness of others), available support in the classroom social environment, or to the congruence (i.e. "match") between the perspectives of the individual child and the potential providers of peer support in the classroom?*

Using standard multiple regression analyses, the following five variables were treated as independent predictors: Perceived Available Peer Social Support (PAPSS-%), Self-Concept, Peer Acceptance, Available Peer Social Support (APSS-%), and the number of Mutual Friendships. With respect to outcomes, the following four variables were treated as dependent: teacher-rated externalizing problems (BASC-EXT), teacher-rated internalizing problems (BASC-INT), teacher-rated school problems (BASC-SP), and self-rated negative emotions (SRNE). One independent analysis was conducted for each of the dependent variables listed above. Each analysis included an evaluation of the predictive power of all independent variables as a group and the unique contribution of each independent variable beyond that of the others.

Preliminary checks were conducted to verify that no serious violations of the assumptions for multiple regression analysis were found for either the predictors or the dependent measures. Note that a Bonferonni or other correction to reduce Type 1 error was not deemed necessary for several reasons: as each analysis was run independently, the influence of predictors on one dependent variable is not expected to have influence on predicting other dependent variables; only one model is in use; multicollinearity is not a

concern; and because there is lack of agreement among statisticians regarding the use of such corrections (J. Haring, personal communication, March 9, 2007). Also, as recommended by Hair et al. (1998), the regression analyses were estimated with both the original and transformed variables to check the impact that non-normality of the predictors might have on the interpretation of the results (p. 197). Minor changes were found in the statistics and the pattern of results remained the same. There was also modest improvement in prediction when using the transformed variables.

*Teacher-Rated Problems.* The combination of predictor variables was found to significantly predict teacher-rated externalizing problems (i.e. hyperactivity, aggression, and conduct problems), accounting for 9% of the overall variance in the outcome [ $F(5, 93) = 2.84, p < .05$ ]. However, none of the predictors was found to make a significant unique contribution beyond that of the others (see Table 22). The combination of predictors was also found to significantly predict teacher-rated internalizing problems (i.e. anxiety, depression, and somatization), accounting for 13% of the overall variance in the outcome [ $F(5, 93) = 3.79, p < .01$ ]; (see Table 23). Here, both the number of Mutual Friendships and Peer Acceptance were found to make a statistically significant unique prediction beyond that of the others. The number of Mutual Friendships accounted for approximately 3% of the variance in teacher-rated internalizing problems while Peer Acceptance accounted for approximately 4% of the variance in teacher-rated internalizing problems.

The combination of predictors also significantly predicted teacher-rated school problems (i.e. attention problems and learning problems), accounting for approximately 30% of the variance in the outcome [ $F(5, 93) = 9.62, p < .01$ ]; (see Table 24). Several of

the predictors were found to make a statistically significant and unique contribution beyond that of the others. Peer Acceptance was found to predict approximately 9% of the variance in the outcome, followed by the number of Mutual Friendships at 6% of the variance in the outcome, and finally Self-Concept which predicted approximately 3% of the variance in the outcome.

Table 22  
*Regression Analysis: Dependent Variable =Teacher-Rated Externalizing Problems*

<u>Predictor</u>	<i>Adjusted</i>		<i>F</i>	<i>B</i>	<i>SE B</i>	$\beta$	<i>t</i>	<i>Zero-order</i> <i>r</i>	<i>Part r<sup>2</sup></i>
	<i>R<sup>2</sup></i>	<i>R<sup>2</sup></i>							
	.13	.09	2.84*						
Self-Concept				.25	.64	.04	.39	-.05	.00
PAPSS-%				-.78	.64	-.13	-1.21	-.20*	.01
Peer Acceptance				-1.05	.70	-.17	-1.52	-.28**	.02
APSS-%				-.89	.64	-.15	-1.40	-.25*	.02
Mutual Friendship-#				-.62	.70	-.10	-.89	-.25*	.01

*df* = 5, 93; \**p* < .05; \*\**p* < .01

Note. Teacher-rated externalizing problems is a composite that includes measures of hyperactivity, aggression, and conduct problems. PAPSS = Perceived Available Peer Social Support; APSS = Available Peer Social Support.

Table 23

*Regression Analysis: Dependent Variable =Teacher-Rated Internalizing Problems*

<u>Predictor</u>	<i>Adjusted</i>		<i>F</i>	<i>B</i>	<i>SE B</i>	$\beta$	<i>t</i>	<i>Zero-order</i>	<i>Part r<sup>2</sup></i>
	<i>R<sup>2</sup></i>	<i>R<sup>2</sup></i>						<i>r</i>	
	.17	.13	3.79**						
Self-Concept				-.01	.57	-.00	-.03	-.16	.00
PAPSS-%				-.54	.57	-.10	-.94	-.21	.01
Peer Acceptance				-1.23	.62	-.22	-2.00*	-.33**	.04
APSS-%				-.01	.57	-.01	-.15	-.14	.00
Mutual Friendship-#				-1.23	.62	-.22	-1.98*	-.35**	.03

*df* = 5, 93; \**p* < .05; \*\**p* < .01

Note. Teacher-rated internalizing problems is a composite that includes measures of anxiety, depression, and somatization. PAPSS = Perceived Available Peer Social Support; APSS = Available Peer Social Support.

Table 24

*Regression Analysis: Dependent Variable =Teacher-Rated School Problems*

<u>Predictor</u>	<i>Adjusted</i>		<i>F</i>	<i>B</i>	<i>SE B</i>	$\beta$	<i>t</i>	<i>Zero-order</i>	<i>Part r<sup>2</sup></i>
	<i>R<sup>2</sup></i>	<i>R<sup>2</sup></i>						<i>r</i>	
	.34	.30	9.62***						
Self-Concept				-1.70	.82	-.19	-2.06*	-.30**	.03
PAPSS-%				1.58	.83	.18	1.90	-.04	.02
Peer Acceptance				-3.14	.89	-.35	-3.54**	-.48**	.09
APSS-%				.25	.89	.03	.30	-.18	.00
Mutual Friendship-#				-2.60	.90	-.29	-2.89**	-.43**	.06

*df* = 5, 93; \**p* < .05; \*\**p* < .01; \*\*\**p* < .001

Note. Teacher-rated school problems is a composite that includes measures of attention problems and learning problems. PAPSS = Perceived Available Peer Social Support; APSS = Available Peer Social Support.

*Self-Reported Negative Emotions.* With respect to self-ratings of negative emotions (i.e. anger, anxiety, and depression), the combination of predictors reached statistical significance, accounting for approximately 23% of the variance in the outcome [ $F(5, 93) = 6.74, p < .001$ ]; (see Table 25). However, Self-Concept emerged as the only predictor found to make a unique contribution beyond that of the others. Self-Concept was found to explain approximately 19% of the variance in the outcome.

Table 25  
*Regression Analysis: Dependent Variable =Self-Rated Negative Emotions*

<u>Predictor</u>	<i>Adjusted</i>		<i>F</i>	<i>B</i>	<i>SE B</i>	$\beta$	<i>t</i>	<i>Zero-order</i>	<i>Part r<sup>2</sup></i>
	<i>R<sup>2</sup></i>	<i>R<sup>2</sup></i>						<i>r</i>	
	.27	.23	6.74**						
Self-Concept				-4.70	.89	-.47	-4.86**	-.50**	.19
PAPSS-%				-.01	.97	-.01	-.06	-.17	.00
Peer Acceptance				-.01	1.04	-.01	-.08	-.14	.00
APSS-%				.96	.97	.10	.98	.02	.01
Mutual Friendship-#				-1.11	1.06	-.11	-1.05	.23*	.01

*df* = 5, 93; \* $p < .01$ ; \*\* $p < .001$

Note. Self-rated negative emotions is a composite that includes measures of anxiety, depression, and anger.

*How do children understand and conceptualize social support within the context of the classroom?*

Qualitative responses to questions concerning the provision and receipt of support in the classroom were coded according to the type of support described. (See Appendix I for the coding scheme). The responses were categorized into three broad types of support including Social/Emotional, Material/Physical, and Academic. Responses were coded

into a fourth category (i.e. “No Category”) if children denied giving or receiving help, or if they were unable to provide an example. Each broad category of support was broken down into sub-categories. To gauge the type of support given to their peers, the children were asked, “Have you helped others in your classroom? How?” To gauge the type of support they received from peers, they were asked “Have others in your classroom helped you? How?”

The coding scheme and sample responses for each category of support are provided in Appendix I. The children in this study described basic ways of providing and receiving social/emotional support in the classroom such as interceding on behalf of their peers with bullies, giving and receiving friendship and companionship, and comfort for those with hurt feelings. They described supporting one another through material/physical means such as sharing materials, sharing snacks, and providing help for those injured on the playground. The academic support they described included giving and receiving specific answers to one another on assignments, assistance with reading, providing explanations of academic material, helping with homework, and actually “teaching” one another.

Initially, chi square tests for independence were performed for help given and help received to investigate whether the frequency of responses falling into the various categories differed by gender or grade. Gender or grade differences were not found. Chi square goodness of fit tests were performed for help given and help received in order to determine whether the frequency of responses falling into each of the four broad categories for the total sample departed from expectancy. The results for help given [ $\chi^2$  (3,  $N = 110$ ) = 25.418,  $p < .0001$ ] and help received [ $\chi^2$  (3,  $N = 107$ ) = 17.374,  $p < .001$ ]



both reached statistical significance. A post hoc procedure developed by Haberman (1973) was used to determine the degree to which each category of responses deviated from expectancy. In Haberman's procedure, the standard normal deviate (i.e. " $d$ ") is calculated for each broad category of responses and interpreted in the same manner as a z-score.

With respect to the frequency of responses describing "help given", a greater than expected number of responses fell into the categories of academic support (e.g. "*I help Sammy with reading*";  $d = 4.08, p < .0001$ ) and social-emotional support (e.g. "*I helped her feel better by sharing with her*";  $d = 2.74, p < .01$ ). The number of responses categorized as material/physical support (e.g. "*I took someone to the nurse*") was not significantly above or below the expected frequency ( $d = -.61, p > .05$ ). Finally, not surprisingly, the number of responses categorized as "no category" was far below expected ( $d = -4.14, p < .001$ ).

With respect to the frequency of responses describing "help received", a significantly greater than expected number of responses also fell into the categories of academic support (e.g. "*He helped me with my homework*";  $d = 5.21, p < .0001$ ) and social-emotional support (e.g. "*Sara helped me feel better when I was sad*";  $d = 5.54, p < .0001$ ). However, responses categorized as material/physical support (e.g. "*When my nose bled, he helped me get to the nurse*";  $d = -5.32, p < .0001$ ) and those receiving a "no" category code ( $d = -4.73, p < .0001$ ) fell significantly below the expected frequency. See table 26 for the frequencies associated with each category of responses for help given and help received.

Table 26

*Frequencies and Percentages of Overall Response Categories for Social Support - Help Given and Help Received (N = 99)*

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*Have you helped others in your classroom? How?*

<u>Overall Category</u>	<u>Frequency</u>	<u>%</u>	<u>d</u>
Academic	41	.37	4.08**
Social/Emotional	37	.34	2.74*
Material/Physical	25	.23	-.61
“No” Category	7	.06	-4.14**
<u>Total Responses</u>	<u>110</u>		

Expected cell/category frequency = 27.5

*Have others in your classroom helped you? How?*

<u>Overall Category</u>	<u>Frequency</u>	<u>%</u>	<u>d</u>
Academic	41	.38	5.21**
Social/Emotional	33	.31	5.54**
Material/Physical	19	.18	-5.32**
“No” Category	14	.13	-4.73**
<u>Total Responses</u>	<u>107</u>		

Expected cell/category frequency = 26.7

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\* $p < .01$ ; \*\* $p < .0001$

Note.  $d$  = the standard normal deviate. Some children gave multiple responses requiring different categorical codes so that the total number of responses exceeded the number of children. For help given, 88 children gave a response corresponding to one category while 11 children gave a response corresponding to two categories for a total of 110 responses. For help received, 91 children gave a response corresponding to one category while 8 children gave responses corresponding to two categories for a total of 107 responses. Responses received a “No” Category code if the children denied giving or receiving help, or if they were unable to provide an example.

Tables 27 - 28 provide the frequency of responses by sub-category within each broad overall category. For both help given and help received, the majority of responses within the Social/Emotional category were descriptions of emotional/psychological support (43%, 48%). For both help given and help received, the majority of responses within the Material/Physical category were descriptions of physical support (64%, 68%). For both help given and help received, the majority of responses within the Academic category were descriptions of specific help (93%, 85%). Finally, for help given and

received, most responses within the “No Category” were responses of “No” to the questions posed (71%, 93%).

Table 27  
*Frequencies and Percentages of Response Sub-Categories for Understanding Social Support – Help Given (N = 99)*

<i>Have you helped others in your classroom? How?</i>		
<u>Response Category</u>	<u>Frequency</u>	<u>%</u>
<i>Social/Emotional</i>		
Social/Interpersonal	10	.27
Friendship	5	.13
Emotional/Psychological	16	.43
Missed Information	3	.08
General Information	3	.08
<u>Total Responses</u>	<u>37</u>	
<i>Material/Physical</i>		
Physical	16	.64
School Materials	7	.28
Incidental	2	.08
<u>Total Responses</u>	<u>25</u>	
<i>Academic</i>		
Specific Help	38	.93
Learning	3	.07
<u>Total Responses</u>	<u>41</u>	
<i>“No” Category</i>		
“Yes”, but no example	2	.29
“No”	5	.71
<u>Total Responses</u>	<u>7</u>	
<u>Overall Total Responses</u>	<u>110</u>	

Table 28

*Frequencies and Percentages of Response Sub-Categories for Understanding Social Support - Help Received (N = 99)*

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*Have others in your classroom helped you? How?*

<u>Response Category</u>	<u>Frequency</u>	<u>%</u>
<i>Social/Emotional</i>		
Social/Interpersonal	7	.21
Friendship	4	.12
Emotional/Psychological	16	.48
Missed Information	4	.12
General Information	2	.06
<u>Total Responses</u>	<u>33</u>	
<i>Material/Physical</i>		
Physical	13	.68
School Materials	4	.21
Incidental	2	.11
<u>Total Responses</u>	<u>19</u>	
<i>Academic</i>		
Specific Help	35	.85
Learning	6	.15
<u>Total Responses</u>	<u>41</u>	
<i>“No” Category</i>		
“Yes, but no example	1	.07
“No”	13	.93
<u>Total Responses</u>	<u>14</u>	
<u>Overall Total Responses</u>	<u>107</u>	

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### *Case Studies in Perceived Available Peer Social Support*

Two participants were selected to provide contrasting examples of the relationship between Perceived Available Peer Social Support and various aspects of children's adjustment in the elementary school classroom. Both students were selected from the same second grade classroom and both participated in the social competence intervention described earlier. Table 29 provides scores for both individuals along with means and standard deviations for the total sample. In actual practice, ethical issues would limit the ability to gather class wide peer nominations without parental consent. However, the Perceived Available Peer Social Support measure could be included as part of a psychoeducational assessment, particularly for practitioners who are evaluating school-referred children.

#### *Subject 101 – “Amanda”*

Amanda is a second grade, Hispanic female student in Mrs. “E’s” classroom. Amanda currently receives English as a Second Language (ESOL) services as a source of additional academic language support. On self-report measures of emotion, Amanda did not indicate difficulties in depression or anger. However, her anxiety score was found to be elevated and in the at-risk range. Therefore, Amanda reported experiencing physical anxiety symptoms and general nervousness more than others of the same age.

With respect to her perceptions of herself and of the supportiveness of others in her classroom, Amanda's overall Self-Concept score was found to be approximately one standard deviation below the mean. Therefore, she does not view herself as positively as others in her classroom. Also, when asked to name classroom peers whom she believed would be available to help her, Amanda named just one individual that she believed

would try to help if someone was mean to her. She was unable to name anyone whom she believed would provide either emotional or general support. Therefore, Amanda's PAPS-% score was nearly zero at .01.

Amanda's peer acceptance score was found to be more than one standard deviation below the mean. Therefore, Amanda does not appear to be liked as much as most others in her classroom. Even so, approximately 26% of her peers said that they would indeed help Amanda if she had a problem. Therefore, though help is reportedly available, Amanda does not perceive her peers to be available sources of support. Though it cannot be stated for certain, Amanda's relatively low peer acceptance score suggests that her peers, though reportedly available to help, may not convey themselves as such. It is not surprising then, that Amanda was found to have just one mutual friend in her classroom. Also, there were no matches between the one peer she nominated as available to help and those who said they would help her (i.e. PAPS-APSS-#). In other words, the one peer that Amanda believes would help her did not report that he or she would help Amanda.

Information obtained from Amanda's teacher indicates that Amanda's school problems and externalizing problems are in the average range. However, Amanda's internalizing score was found to be in the At-Risk range (as measured by the BASC internalizing composite score). When additional information was gathered and reviewed, Amanda was also found to have a Withdrawal score (on the BASC) in the clinically significant range. This suggests that Amanda frequently avoids others and may have trouble forming relationships with her peers. In turn, her social avoidance may be directly related to her poor perceptions of the supportiveness of others. Amanda may benefit from

a group-based intervention with goals to help Amanda regulate her feelings of anxiety as well as teach Amanda the skills necessary in forming and maintaining positive relationships with her classmates. To promote generalization, Amanda should be encouraged to practice these skills in the classroom and other school-based environments (such as the lunch room and playground).

*Subject 7 – “Michael”*

Michael is a second grade, African American male student in Mrs. “E’s” classroom. Michael does not receive additional academic support services. On self-report measures of emotion, Michael did not report difficulties in depression or anger. Michael’s anxiety score was somewhat lower than the mean which indicates that he experiences very few symptoms of anxiety.

Michael’s overall view of himself was found to be positive as his Self-Concept score was found to be approximately one standard deviation above the mean. Michael also perceives many of his classmates as available to help him if needed. Michael was able to name several peers as available sources of support. Overall, he perceived that approximately 19% of the peers in his classroom were available to help him if needed.

Michael also appears to be well-liked by the peers in his classroom as his peer acceptance score was found to be one standard deviation above the mean. Also, approximately 48% of Michael’s classmates reported that they would help Michael if needed. Therefore, the classroom environment appears to be a positive one for Michael as a great deal of peer support is reportedly available to him and he is well-liked.

Information concerning Michael’s friendships and the match between his perceptions of support and the support available to him suggest that this is the case. Michael was found

to have three mutual friends and a total of three matches between those he believed would help him and those who said they would help him.

Information obtained from Michael's teacher indicates that Michael's externalizing and internalizing problems are within the average range. However, Michael was found to have fewer school problems than average as indicated by a BASC school problems composite score in the low range. When additional information was gathered and reviewed, Michael was also found to have a Withdrawal score (on the BASC) in the low range. Therefore, Michael does not have trouble forming relationships with others and he may engage his peers rather frequently in the classroom.



Table 29  
*Case Studies in Perceived Available Peer Social Support*

Variable	"Amanda"	"Michael"	Sample	
			<i>M</i>	<i>SD</i>
Self-Concept	2.50	4.00	3.20	.74
PAPSS-%	.01	.19	.18	.18
APSS-%	.26	.48	.38	.01
Peer Acceptance	1.82	2.64	2.24	.33
Mutual Friendship-#	1.00	3.00	2.66	1.56
PAPSS-APSS-#	0.00	3.00	1.60	1.34
BASC-EXT	42.00	49.00	44.89	6.10
BASC-INT	62.00	40.00	43.41	5.55
BASC-SP	48.00	35.00	49.61	9.02
Withdrawal*	80.00	39.00	46.24	6.85
CDI-S	47.00	40.00	46.96	6.90
ChIA	40.00	40.00	45.42	9.60
MASC-10	60.00	39.00	53.50	10.96

\*Note. The withdrawal scores of the BASC were not included as part of the current study, but are included to provide clarity in understanding the differences between the profiles of these particular students. PAPSS = Perceived Available Peer Social Support; APSS = Available Peer Social Support; PAPSS-APSS = Match between Perceived Available Peer Social Support and Available Peer Social Support; BASC-EXT = BASC Externalizing Problems; BASC-INT = BASC Internalizing Problems; BASC-SP = BASC School Problems; CDI-S = Children's Depression Inventory, short form; ChIA = Children's Inventory of Anger; MASC-10 = Multidimensional Anxiety Scale for Children, 10-item report.

## CHAPTER 5

### Discussion

The primary purpose of this study was to investigate whether children's adjustment is more closely linked to their individual perceptions (of themselves and of the supportiveness of others), the available support in the classroom social environment, or the congruence (i.e. "match") between the perspectives of the individual perceiver and the potential providers of support. Given the exclusive focus of this study on the elementary school classroom, this study also sought to investigate how children conceptualize support within the context of the classroom through the use of qualitative interviews. This study utilized a culturally and racially diverse group of young elementary school students.

This section begins with a discussion of the major findings of this study in relation to the primary research questions. Next, a discussion is provided on the use of sociometric nominations in this study to measure children's perceptions of support. Following this particular section, limitations of the study are discussed followed by theoretical and research implications of the findings as well as their implications for practice.

*Is children's adjustment more closely linked to individual perceptions (of themselves and of the supportiveness of others), available support in the classroom social environment, or to the congruence (i.e. "match") between the perspectives of the individual child and the potential providers of peer support in the classroom?*

In order to answer this question, measures of self-concept and perceived available peer social support were used to gauge young children's individual perceptions of

themselves and of the supportiveness of others. Measures of peer acceptance and available peer social support were used to gauge the available peer support in the classroom social environment, and the number of mutual friendships was used to measure the congruence between the perspectives of the individual child and potential providers of support in the classroom. (A measure gauging the “match” between perceived available peer social support and available support was dropped from the analyses due to issues of multicollinearity that could not be resolved.) Using standard multiple regression procedures, these particular measures were used to predict various aspects of children’s adjustment. Specifically, children’s adjustment was measured by teacher’s ratings of externalizing problems, teacher’s ratings of internalizing problems, teacher’s ratings of school problems, and a composite of children’s ratings of negative emotions.

The answer to this research question was found to depend on the measure of adjustment used. In combination, children’s perceptions of themselves and of the supportiveness of others, the available support in the classroom social environment, and the number of mutual friendships were found to be significantly and negatively related to all indicators of adjustment under study. Specifically, higher levels of self-concept, perceived available peer social support, available peer social support, peer acceptance, and friendship were related to lower levels of emotional, behavioral, and school problems. However, it is important here to clarify the issue concerning the direction of causality. Specifically, the implication of these results is that young children’s level of self-concept, perceptions of support, available peer support, and participation in friendships directly impact adjustment. However, it is equally important to understand

that adjustment difficulties may also impact young children's self-concept and peer relationships.

When assessing teacher-rated externalizing problems, none of the predictors emerged as a better predictor than the others. When assessing teacher-rated internalizing problems, peer acceptance and mutual friendship emerged as the best predictors. When assessing teacher-rated school problems, self-concept, peer acceptance, and mutual friendship were the best predictors. Finally, when assessing self-rated negative emotions, self-concept was found to be the best predictor. Next, the findings are discussed in relation to each adjustment outcome.

*Links to Externalizing Problems (Hyperactivity, Aggression, and Conduct Problems)*

The group of predictors of children's adjustment in this study accounted for 9% of the variance in teacher-rated externalizing problems. However, no individual predictor of children's adjustment emerged as a significant contributor to teacher-rated externalizing problems beyond any other predictor under study. With the exception of self-concept, which did not relate to teacher-rated externalizing problems, the rest of the predictors were each negatively and similarly related to teacher-rated externalizing problems such that none emerged beyond the others.

In the research literature, findings concerning the relationship between self-concept and problem behaviors, such as aggression, have been mixed although the literature generally supports the link between higher levels of self-concept and lower levels of problem behaviors. For example, Moran and Dubois (2002) found that self-esteem was negatively related to aggression. However, other studies have found a link

between higher levels of self-concept and higher levels of problem behaviors (Dubois, Felner, Brand, & George, 1999).

Moran and Dubois point out that study results tend to become mixed when the focus is on the peer context and that “context-specific” measures may be important. In particular, linkages may be strongest when measures pertain to the same context. Therefore, one explanation for why the current study did not support a link between higher externalizing classroom behaviors and lower levels of self-concept may be because the measure of global self-worth used is not specific to the peer or classroom context.

Another explanation for the differences among findings concerns the sources of information. For example, Moran and Dubois obtained children’s reports of their own aggressive behaviors while the current study relied on teacher’s ratings. Therefore, a stronger link between aggression and self-concept may be found when the information is obtained from the same source. Also, the children in the study conducted by Moran and Dubois were in grades five through eight where they are apt to engage in a relatively greater amount of unsupervised peer interactions. On the other hand, greater adult supervision may play an intervening role in the expression of externalizing behaviors so that many of these behaviors may be contained or thwarted in the elementary classroom.

Particularly with adolescent study samples, other studies have found links between low perceptions of social support and more narrowly defined problem behaviors such as substance use or delinquency (Windle, 1992; Lifrak et al., 1997). However, the finding inversely linking perceived available peer social support to externalizing problems in the current study is consistent with the findings of Demaray and Malecki

(2002a). Although these researchers utilized a much larger sample covering a larger age span ( $N = 1,110$ , grades 3 – 12), a moderate link was found in this particular study as well as in the current study. Additional research is needed to draw a more definitive conclusion, however. In any case, the available evidence suggests that low levels of perceived social support are related to a variety of externalizing problem behaviors.

The inverse link between peer acceptance and externalizing problems is consistent with several studies linking aggressive behaviors and social status (e.g. Dodge et al., 2003; Hartup, 1992). However, the present study also found that children are less willing to help those who are aggressive and disruptive. This study's use of sociometric nominations to gauge available peer social support is exploratory. However, these findings seem to support the notion that aggressive children are treated differently and avoided by their peers (Hartup, 1992). In general, aggressive and disruptive behaviors may lead to poor early peer experiences that impede children from engaging in the social experiences that would allow them to form friendships. In turn, lack of peer support may affect children's attitudes and behaviors towards the social group (Coie, 1990). In particular, children who are excluded may become less engaged and less compliant in the classroom (Buhs, 2005). It follows that as aggressive children are not well liked and possibly avoided, forming friendships is problematic. Therefore, the finding inversely linking mutual friendships to externalizing problems is not surprising either, but is also consistent with the findings of other studies (e.g. Criss, Pettit, Bates, Dodge, & Lapp, 2002).

To summarize, although the amount of variance explained is fairly low, this study found that lower levels of perceived available peer social support, lower levels of peer

acceptance, lower available peer social support, and fewer friendships predicted higher amounts of aggression and disruptive classroom behaviors as rated by the teacher.

However, in the present study, these measures were equally predictive of externalizing problems as rated by teachers.

*Links to Internalizing Problems (Anxiety, Depression, and Somatization)*

The group of predictors of children's adjustment in this study accounted for 13% of the variance in teacher-rated internalizing problems. However, peer acceptance and mutual friendship were found to be the best predictors of teacher-rated internalizing problems. Specifically, lower ratings of peer acceptance and fewer mutual friendships predicted a greater amount of internalizing problems as rated by teachers.

The link between peer acceptance, friendship, and internalizing problems was also found by Parker and Asher (1993) in a sample of elementary school children. Parker and Asher found that peer acceptance and the quality of friendships predicted separately for self-reported loneliness. Although in a sample of relatively older girls, Frankel (1990) similarly found a positive relationship between the number of mutual friendships and self-perceptions of intimacy and problem-focused support, and a negative relationship between peer acceptance and the experience of self-reported social stress. Parker and Asher found that children who were low in peer acceptance were much less likely to have a reciprocal friend, and that these children reported less caring and guidance from peers than those with higher levels of acceptance. In the current study, a positive, significant correlation was also found between peer acceptance and mutual friendship. In other words, children who were more liked also tended to have a greater number of mutual friendships.

The studies conducted by Parker and Asher and by Frankel differ from the current study with respect to the source and type of information concerning internalizing problems. However, together, the available evidence indicates that lower levels of peer acceptance in the classroom and fewer mutual friendships are related to the experience of internalizing problems for young elementary school children in the classroom. Children who are not well liked and who have fewer mutual friendships may receive less actual support for overcoming adversity and stress in the classroom. Therefore, these children may not be able to adequately cope with negative affect such that they are more likely to exhibit internalizing problems in the classroom.

*Links to School Problems (Attention Problems and Learning Problems)*

The group of predictors in this study accounted for 30% of the variance in teacher-rated school problems. However, self-concept, peer acceptance, and the number of mutual friendships were found to be the best predictors of teacher-rated school problems. Accordingly, lower levels of self-concept, lower levels of peer acceptance, and fewer mutual friendships predicted higher levels of school problems. Prior research findings support the notion that children's views of themselves, their level of academic achievement, and the views of their peers are interrelated. For example, Buhs (2005) found that peer acceptance was positively related to academic self-concept, academic adjustment (i.e. achievement), and teacher-rated classroom engagement in a diverse sample of fifth graders. Other studies support the finding that mutual friendships are associated with better academic outcomes. For example, in kindergarten, forming and maintaining friendships has been associated with improvement in academic performance as rated by teachers and by standardized performance measures (Ladd, 1990). Also, in



adolescence, peer acceptance and mutual friendships have been linked to academic achievement (e.g. Wentzel and Caldwell, 1997).

What is unclear, however, is whether young elementary school children are simply less accepting of those who have school problems or whether children who have school problems perhaps lack the social skills needed to access peer support and form friendships in the classroom. For example, during data collection for the current study, one second grade boy commented that he was “not sure” whether he liked one of his peers because the peer in question was “having trouble with his spelling.” Therefore, children with school problems may be excluded on the basis of poor academic performance.

Findings from several studies indicate that students with learning problems perceive lower levels of peer support and have poorer quality peer relationships. For example, Wenz-Gross and Siperstein (1997) found that elementary school children with learning disabilities reported less intimacy, self-esteem, loyalty, and contact in their friendships, and turned to peers less often for support than those without learning disabilities. Also, children with attention deficit hyperactivity disorder (i.e. ADHD) were found to have lower levels of perceived social support as compared to those without attention problems (Demaray & Elliott, 2001). However, children with learning problems have also been found to have trouble reading and interpreting social cues (Pavri & Monda-Amaya, 2001). Additional research is needed to clarify the relationship between school problems and children’s perceptions of peer support. Although these children may not be socially accepted or well-liked by their peers, their level of social skill may also play a mediating role in their ability to access peer support in the classroom.

*Links to Self-Rated Negative Emotions (Anxiety, Depression, and Anger)*

The group of predictors in this study accounted for 23% of the variance in children's ratings of negative emotions. However, self-concept emerged as the best predictor of self-reported negative emotions. Several studies have found that poor self-concept is linked to depression (e.g. Harter & Marold, 1992; Robinson, Garber, & Hilsman, 1995). According to Harter (1993), global self-worth is intricately linked to various aspects of negative affect, particularly depression. It should be pointed out that although the children's reports of anxiety, depression, and anger were combined into a composite measure in this study, statistically significant relationships were only evident between self-concept and depression, and between self-concept and anger. Therefore, the link between self-concept and the composite in the current study is primarily based on its links to depression and anger. Additional research is needed to draw more definitive conclusions about the links between self-concept and various other types of negative emotion such as anger.

Although there are differences with respect to the content of the measures used to gauge self-reported negative emotion and teacher-rated internalizing problems, it is notable that self-concept did not emerge as a significant predictor of teacher-rated internalizing problems. One obvious reason for the strength of the relationship between children's self-concept and their reports of negative emotion concerns the source of information. In other words, it is not surprising that the children's views of themselves would be closely aligned with their own reports of negative emotion. Prior research has also found stronger links between elementary children's self-concept and their self-reports of depression as compared with children's reports of self-concept and parent and

teacher reports of children's depression (McGrath & Repetti, 2002). It has been argued that researchers investigating children's self-concept in the peer context use "context-specific" measures (e.g. Moran & Dubois, 2002). However, the results of the current study suggest that global self-worth as an indication of self-concept is a strong predictor of general measures of self-reported negative emotion, particularly depression and anger.

*How do children understand and conceptualize social support within the context of the classroom?*

To answer questions about how young elementary school children conceptualize social support in the classroom, participants were asked, "Have you helped others in your classroom? How?" in order to gauge the type of support given to their peers. They were asked, "Have others in your classroom helped you? How?" in order to gauge the type of support they received from their peers. Their responses were coded according to the type of support they described. Three broad categories were formed including academic support, social-emotional support, and material/physical support. A fourth category (i.e. "no" category) included responses that were denials of giving or receiving support or those that did not include an example. Whether children said they gave or received help, the majority of their responses were characterized as academic support and social/emotional support while the frequencies of responses falling into the material/physical and "no" categories were less than expected.

The academic support the children described included giving or receiving specific answers on assignments, help with reading, explanations of academic material, help with homework, and actually "teaching" one another or being taught. The children in this study described basic ways of giving or receiving social/emotional support in the

classroom such as friendship and companionship, comfort for hurt feelings, and interpersonal help with bullies. Their descriptions of helping are important as they shed light on the concerns and preoccupations of young elementary school children.

In an investigation of elementary school children's friendships, Rizzo and Corsaro (1995) also found that children were primarily concerned with social participation, school work, and enduring friendships. In addition, children's classroom friendships functioned to facilitate school work and maximize the amount of free play time. For classroom friends, academic concerns were important as the children accomplished school-related tasks through sharing and helping. The implication of the findings of the current study and those of Rizzo and Corsaro is that classroom friends can facilitate the completion of academic tasks. Therefore, the academic support described in the current study may also serve to reinforce and supplement the academic instruction provided by the classroom teachers.

As described earlier in the review of literature, the majority of published children's measures of perceived social support include assessment of a variety of support types including emotional, informational, appraisal (i.e. evaluative feedback), instrumental, and companionship. Therefore, the types of support described in the current study generally parallel the types of support typically assessed. However, with the exception of the Classroom Life Instrument reviewed earlier (Johnson, Johnson, & Anderson, 1983), most measures do not specifically gauge perceptions of available academic peer support. Given that a sizable number of the responses concerning giving and receiving support were descriptions of academic support, future studies of children's perceptions of support, particularly those utilizing school samples, should include an

assessment of perceived peer academic support. For young children who are struggling academically, this particular type of support may be particularly important, especially since these children may also be at risk for developing peer relationship problems.

It should be noted, however, that children's responses concerning academic support may be closely related to the classroom practices of their teachers. In elementary school classrooms where teachers regularly employ cooperative learning techniques and encourage children to seek the help of their classmates for academic assistance, children would be more likely to conceptualize "helping" in the classroom in terms of academic help. It is also important to note that the pattern of responses found in the current study might be very different for older children. Future studies should include an assessment of teaching practices to examine such contextual factors on children's perceptions of classroom support. Future studies should also examine children's perceptions of support at a variety of ages.

#### *Using Sociometric Nominations to Measure Perceptions of Support*

This study was novel in the use of sociometric nominations to measure various aspects of children's perceptions of social support. Perceived available peer social support was measured based on the proportion of peer nominations given out of the number of children in the class for several items pertaining to various aspects of peer social support within the classroom. Perceived available peer social support was measured as the proportion of nominations given out of the number of children in the class. Available peer social support was measured by investigating the proportion of nominations (out of study participants) that each child received from peers who said they were willing to help that particular child. Finally, the match between perceived available

peer social support and available peer social support was explored by examining the congruence between nominations given for perceived available peer social support and nominations received for available peer social support. The match was determined in terms of the number of matched nominations as well as the proportion of matches. The proportion of matches, as the number of matches out of those possible, was considered an estimate of the accuracy of young elementary school children's perceptions regarding the availability of support. Next, the findings concerning these particular variables are discussed.

#### *Perceived Available Peer Social Support*

In the current study, perceived available peer social support was positively (though moderately) related to self-concept and mutual friendship. Therefore, children who perceived a greater amount of support as available from their classmates also had higher self-concept scores and more mutual friendships. The positive link between perceived social support and self-concept is consistent with the findings of several investigations involving a variety of populations (e.g. Demaray & Elliott, 2001; Demaray & Malecki, 2002a, Harter, 1987; Moran & Dubois, 2002; and Robinson, 1995). As well, the positive link between perceived social support and friendship has also been demonstrated in prior research studies (e.g. Cauce, 1986; Frankel, 1990). However, with respect to adjustment outcomes, perceived available peer social support in the current study was only found to relate modestly and negatively to teacher-rated externalizing problems.

The measure of perceived available peer social support was found to have good internal consistency reliability as an indication of how consistently each child nominates

the same proportion of peers for items comprising the measure. It should be noted, however, that the items comprising the measure used in this study did not include perceptions of academic peer support which was found to be central to the classroom context. Including items more closely linked to the descriptions of support given in the qualitative interviews described previously may serve to strengthen the measure and provide better prediction of adjustment problems. Future studies using sociometric nominations in this manner should also seek to establish concurrent validity by including other more established measures of perceived available peer social support.

Children's perceptions of available peer social support were stable over time, ranging from an average of 16% to 18% of classmates from the fall to the spring. Although perceptions of available peer social support were stable across the school year, young children's perceptions of available peer support are likely more malleable to experience than those of adolescents and adults. Future longitudinal studies might investigate the stability of children's perceptions of classroom peer support over the course of several years. Results from such studies would shed light on how much or how little contextual factors may impact young elementary school children's perceptions of available support in the classroom as measured by sociometric nominations. For example, a new setting of peers and teachers will offer experiences that might alter children's perceptions of the availability of peer support, particularly when measured with peer nominations. Also, additional research is needed to determine whether the proportions found in the current study hold for children of other ages and for other populations.

Out of those nominated, 33 – 44% of the peers were the same individuals across the items measuring perceived available peer social support. Therefore, the children

perceived support from a core group of peers regardless of the specific type of support perceived as available. On the other hand, the majority of peers viewed as available to help were found to vary. Furman and Buhrmester (1985), who investigated children's perceptions of their relationships with a variety of individuals, found that children reported receiving different types of support from different sources. One explanation for the large number of variable peers perceived as available for support in the current study is that some peers may be viewed as available for providing specific types of support only. For example, one particular peer may be perceived as available for providing emotional support, but may not be perceived as an available source of academic support. On the other hand, the stable group of peers who are consistently viewed as available to help may also be the children's friends. However, additional research is needed to determine specifically whether the stable group of peers is composed of mutual friends. This would involve actually comparing the child's nominated friends with this particular group.

#### *Available Peer Social Support*

In addition to peer acceptance ratings, available peer social support was used as a measure of the amount of available support in the classroom social environment. However, although the peer acceptance ratings remained stable, available peer social support increased significantly by the spring from an average of 27% (of participants) in the fall to 38% (of participants) in the spring. Therefore, although the children were not *liked* more over time, a greater proportion of peers were reportedly willing to help them by the end of the school year. It is important to note, however, that some of the students in this study participated in an unrelated social competence intervention that might have



impacted their perceptions of support over time, particularly as it relates to helping others. However, because several classes participated in the intervention, it is not possible to separate out classroom climate effects from those related to the intervention. In any case, the predictors used in this study were transformed to z-scores to account for possible differences in classroom climate as well as differences in class size.

Interestingly, available peer social support was not related to perceived available peer social support. Therefore, although peer social support is reportedly available, children may not perceive this to be the case. Available peer social support was found to relate positively (though modestly) with peer acceptance and mutual friendship. Therefore, the amount of available help apparently increases the more children are liked and have mutual friendships. One limitation to this particular measure, however, is that available peer social support could only be assessed by study participants and not all students in the classroom. Therefore, although the majority of students in each class participated in the study, the proportions found should be interpreted with caution as not all students in the classroom were included.

In a prior investigation involving the same study sample (Lanier, unpublished), children's willingness to help (as the number of nominations *they gave* for helping) was not confined to helping their friends or to their expectations for reciprocity. However, according to Youniss (1984) the obligation to help develops through reciprocity and distinguishes friends from peers. It may be, then, that although young children report that they are willing to help their classroom peers, actual helping occurs more between friends. This may be why mutual friendship emerged as one of the best predictors of adjustment.

Interestingly, available peer social support was found to relate significantly and negatively to teacher-rated externalizing problems only. In other words, children are less willing to help those who are “aggressive and disruptive” in the classroom, but do not limit their willingness to help those who experience emotional and school problems. The fact that support is reportedly available, however, is important even though children may not perceive this to be the case. The results of this study suggest that available peer social support is an untapped resource that could be utilized as part of class wide interventions to address the concerns of young elementary school children with low perceptions of available peer social support and those who are experiencing other adjustment problems.

One limitation to the measure of available peer support in this study is that this particular construct was assessed generally (i.e. “kids you would help”). Creating nominations items to tap available support in terms of more specific types of helping might generate a different pattern of results. Given the types of support children described in the qualitative interviews, future studies might investigate available peer support in terms of social-emotional support, academic support, and material-physical support. Creating such a measure might result in stronger links to outcomes.

#### *The Match between Perceived Available Peer Social Support and Available Peer Social Support*

In addition to mutual friendship, this study sought to investigate the congruence between individual perceptions of available peer support and available peer social support. On the surface, this particular variable as described appeared to have face validity. However, several problems were found that suggested that construct validity was lacking. First, at both times, the children were only found to have an overall average

of at least 1 match between nominations given for perceived available peer social support and nominations received for available peer social support. Also, although an increase was found in both the number and proportion of matches, it was discovered that children's perceptions of available peer social support remained stable while available peer social support increased significantly over time. Therefore, the increase in the number and proportion of matches between nominations given for perceived available peer social support and those received for available support was likely due to the increase in available support over time.

Internal consistency for the proportion of matches was found to be low while internal consistency for the number of matches was found to be acceptable. Therefore, initially, the number of matches was deemed most appropriate for inclusion in the primary analyses. The number of matches was also found to be slightly better related to the measures of adjustment, although only significantly related to teacher-rated externalizing problems. In any case, multicollinearity was found to be an issue as the match between perceived available peer social support and available peer social support was strongly correlated with perceived available peer social support. Because the problem could not be remedied, the "match" variable was dropped from the primary analyses.

Future studies might improve this measure by creating items for perceived available social support and available peer social support that are the same in content. In the current study, available peer social support was assessed generally and with one item while perceived available peer social support was composed of three items assessing various types of social-emotional support. Therefore, creating an equal number of items

with the same content for both the individual perceiver and the potential providers of support might result in a stronger and more valid measure.

#### *General Limitations of the Study*

A number of additional limitations are present in this study. First, though data from each participating classroom were standardized and then pooled together, each classroom can be considered an independent social environment with differing behavioral norms and educational practices. As such, certain factors unique to each classroom may affect the classroom social climate, which may directly or indirectly affect children's relationships within each classroom. For example, individual teachers may differentially emphasize certain social behaviors such as cooperation and helping. In classrooms where such behaviors and attitudes are emphasized, children may be more likely to form positive relationships with peers, which may affect children's perceptions of available peer support in the classroom and their willingness to help others, particularly over time. In addition, individual teachers may differentially employ the use of group work completion projects where children are required to help one another, which may also affect children's perceptions of available peer support in the classroom. This type of data was not collected in the present study. Therefore, the influence of classroom contextual variables cannot be explored. In any case, the predictor variables were ultimately standardized to control for such differences.

The present study also focused exclusively on perceived available social support from peers. Therefore, other important sources of support in the classroom and school environments were not considered such as teachers, classroom aides, or administrators. It is acknowledged that the link to adjustment between perceptions of available peer support

in the classroom may be moderated by support from other sources. In particular, support from teachers may compensate for the lack of peer support in the classroom. Indeed, during data collection, some children were quick to name their teachers when asked to nominate peers they believed would help them.

Another limitation involves the lack of independence in observations for reciprocal friendship nominations and for the match across nominations of perceived available support and available support from classroom peers. The number of reciprocal or “matched” nominations for any given child is influenced both by the number of nominations given as well as the number of nominations received from peers. Therefore, those who give a greater number of friendship or perceived support nominations are more likely to have reciprocal or matched nominations. Further, it was noted during data collection that some children were very careful in considering their responses, while others gave broad inclusive responses such as “everybody” or “nobody.” It is not surprising then that in the current study, approximately half of children’s nominations for friendship were reciprocated at both times.

The tendency to give broad inclusive responses may be related to the children’s stage of development. According to Rubin et al. (1999), children may interpret the concept of friendship differently at different ages, leading younger children to give socially desirable responses or to name acquaintances rather than best friends. The same may be true of children’s concepts of helping. Therefore, interpretations of the significance of reciprocal or matched nominations should be made with caution and with consideration of the proportions of reciprocal nominations which provides a measure of the accuracy of children’s perceptions.

It is also important to note that the change in peer support from the fall to the spring might be a more powerful predictor of adjustment. Therefore, future longitudinal studies should include an analysis of the impact of changes in peer support in relation to children's adjustment in comparison to an analysis of the links between peer support and children's adjustment at one point in time.

Finally, this study utilized a racially and culturally diverse sample of young elementary school students. Therefore, the findings may not hold for other populations. Also, the current study did not include an assessment of the possible cultural factors that might influence children's perceptions of support, notions of helping, and peer relations in the classroom. Therefore, future studies should include an assessment of the cultural variables that might play a role in children's perceptions and relationships.

#### *General Theoretical and Research Implications of the Findings*

According to the results of the current study, mutual friendship, peer acceptance, and self-concept emerged as the best predictors of children's emotional and school adjustment while none of the predictors emerged beyond the others when predicting teacher-rated externalizing problems. Peer acceptance and mutual friendship were found to be the best predictors of teacher-rated internalizing problems while self-concept, peer acceptance, and mutual friendship were the best predictors of teacher-rated school problems. Finally, self-concept was the best predictor of self-reported negative emotion. This study also found that the context is particularly important in assessment since in the classroom context, the children primarily conceptualized peer support as "academic", followed by social/emotional support, and to a lesser extent, material/physical support.

The study findings suggest that individual views of the self, aspects of the social environment, *and* the congruence between the individual and potential providers of support are important, depending on the outcome measure under study. These findings have implications for the prevailing theoretical views of social support that tend to emphasize the role of individual perceptions, aspects of the social environment, and more recently the interaction between the individual and the environment. It appears that each theoretical viewpoint has merit, but no prevailing theory may sufficiently explain the links between social support and adjustment outcomes.

In order to clarify the relationships, future studies should include measures of individual perceptions, aspects of the social environment, and measures to gauge the congruence between young children's individual perceptions and those of potential providers of support in relation to a variety of adjustment outcomes. In addition, future studies should further clarify the relationship between self-concept and perceptions of support through mediational analyses.

#### *General Implications for Practice*

The findings of this study suggest that young children who suffer academic problems, and who encompass the bulk of parent and teacher referrals for special education evaluation, may not be well-liked by their peers and may not have adequate mutual friendships in the classroom. For these children, assessing social-emotional functioning should extend beyond simply gathering information from parents and teachers through the use of behavior rating scales. In other words, questioning children directly about their peer relationships, such as in a clinical interview, might alert the evaluator to potential peer relationship problems. As well, conducting observations for

social-emotional functioning *in addition to or as part of* observations of academic functioning might shed light on peer relationship problems and ultimately aid in the formation of appropriate intervention strategies.

The findings of this study also highlight the importance of gathering multiple types of information from multiple sources prior to drawing conclusions. Whether or not there are teacher-rated problems, children's reports are important. As well, measures of self-concept that reveal a poor self-image should alert the school psychologist and school counselor to gather additional information concerning the child's perceptions of negative emotion since these constructs are tied closely together.

Finally, the measure of perceived available peer social support used in this study could very easily be included as part of a school psychologist's assessment of children's social-emotional functioning as part of a comprehensive psychoeducational evaluation. Simply asking children to name peers they believe are available to help them according to the aspects of social support explored in this study and then deriving the proportion of perceived available peer social support out of the child's available classmates is a fairly simple computation for an individual child. Assuming the child's perceptions are found to be "low", this information could would alert the practitioner to gather additional information about the child's social-emotional functioning and peer relationships that could ultimately prove useful in assessing the child's functioning. Of course evaluating what constitutes "low" may be somewhat difficult as the current study offers the only available comparison for what constitutes "average" perceptions of available peer classroom support. As well, the measure used in the current study does not include perceptions of available academic peer support. However, including an item such as



“who would help you with your school work” could be easily included as part of the measure.

### *Conclusions*

Within the context of the elementary school classroom, this study investigated whether children’s adjustment is more closely linked to their individual perceptions (of themselves and of the supportiveness of others), the available support in the classroom social environment, or the congruence (i.e. “match”) between their individual perspectives and those of the potential providers of support. This study also investigated how children conceptualize support within the elementary school classroom. According to the study results, peer acceptance and mutual friendship were the best predictors of teacher-rated internalizing problems; self-concept, peer acceptance, and mutual friendship were the best predictors of teacher-rated school problems; and self-concept was found to be the best predictor of self-rated negative emotion. None of the predictors of adjustment emerged beyond the others when exploring links to teacher-rated externalizing problems. In other words, the results varied depending on the adjustment measure.

These findings suggest that although existing theories that conceptualize support in terms of individual perceptions, aspects of the social environment, or in terms of the interaction between the individual and the environment each have merit, no single theory may adequately explain the relationship between perceptions of social support and children’s adjustment. When children were interviewed about giving and receiving help in the classroom, the majority of their responses were descriptions of academic support, followed by social/emotional support, and to a lesser extent, they described

material/physical support. These particular findings highlight the importance of the context in constructing measures of perceived available social support for children. In particular, future studies occurring within the school context should include assessment of perceived academic peer support as this particular type of support may have implications for academic success.

This study was novel in the use of sociometric nominations to measure perceived available peer social support, available peer social support, and the congruence between perceived available peer social support and available peer social support. Children's perceptions of available peer social support were found to be stable across the school year and children perceived available peer social support from a core group of peers regardless of the type of support. The majority of peers viewed as available to help, however, were found to vary, possibly as a function of support type.

Although peer acceptance ratings remained stable, available peer social support increased significantly over the course of the school year. Therefore, although the children were not *liked* more over time, a greater proportion of peers were reportedly willing to help them by the end of the school year. Available peer social support was not related to perceived available peer social support. Therefore, available peer social support appears to be an untapped resource in the classroom that could be utilized as part of interventions for children with problematic peer relations. This study's use of the match between perceived available peer social support and available peer social support was found to have problems with validity such that it was ultimately dropped from the primary analyses. This particular measure could be improved by creating an equal

number of items with the same content for both the individual perceiver and the potential providers of support.

Finally, the study results reemphasize the importance of gathering multiple types of information from multiple sources during assessment. Depending on the results of parent and teacher reports, additional assessment of social-emotional functioning should include children's reports of self-concept, peer relationships, and negative emotion. The measure of perceived available peer social support used in this study could be included as part of a school psychologist's psychoeducational assessment of children's social-emotional functioning that might alert the psychologist to more serious peer relationship problems.

## Appendix A

### Parent and Teacher Consent Forms

#### *Parent consent form for children participating in the social competence intervention*

As the parent or guardian of \_\_\_\_\_, I state that I am over 18 years of age and give permission for my child to participate in a program of research being conducted by Hedwig Teglasi, PhD in the Department of Counseling and Personnel Services at the University of Maryland, College Park.

The program involves my child's participation in...

- weekly reading groups about bullies, either in the classroom or in small groups with discussion, for a total of 25 one-hour sessions during the 2002-2003 school year. The small groups will be audiotaped.
- two individual one-hour interviews with researchers twice during the school year - once during Fall of 2002, and once during Spring 2003, portions of which will be audiotaped

The interviews involve...

- Speaking with researchers about friendship, self-concept, and relationships with classmates
- Participating in a storytelling activity
- Completing measures designed to measure self-concept, anger, sadness, anxiety
- Completing a measure of listening comprehension

Information collected is confidential and not part of my child's educational record and will not influence his or her educational program. After all information has been collected, my child's name will be removed.

Although my child may not personally benefit from this research, the activities that my child will participate in have not been found to involve any risks beyond those encountered in typical everyday interactions.

The study is designed to help the investigators learn more about the Program as well as about student adjustment, development, and relationships with classroom peers. My child is free to withdraw from participation at any time and without penalty

Principal Investigator: Hedwig Teglasi, PhD with Lee Rothman, School Psychologist  
Work Address: Department of Counseling & Personnel Services  
3214 Benjamin Building, University of Maryland  
College Park MD 20742  
Work Phone: 301-405-2867

DATE \_\_\_\_\_

NAME OF PARENT OR GUARDIAN \_\_\_\_\_

SIGNATURE OF PARENT OR GUARDIAN \_\_\_\_\_

*Parent consent form for children not receiving the social competence intervention*

As the parent or guardian of \_\_\_\_\_, I state that I am over 18 years of age and give permission for my child to participate in a program of research being conducted by Hedwig Teglasi, PhD in the Department of Counseling and Personnel Services at the University of Maryland, College Park.

The program involves my child's participation in...

- two individual one-hour interviews with researchers twice during the school year, once during Fall of 2002, and once during Spring 2003, portions of which will be audiotaped
- Speaking with researchers during the interviews about friendship, self-concept, and relationships with classmates.
- Participating in a storytelling activity and completing a listening comprehension test during the interviews.

Additionally, my child's teachers will complete measures designed to assess classroom adjustment, behavioral style, and relationships with other children.

Information collected is confidential and will not be included in my child's educational record. Participation will not influence my child's educational program. After all information has been collected, my child's name will be removed.

The activities that my child will participate in have not been found to involve any risks beyond those encountered in typical everyday interactions.

I understand that my child may or may not benefit from participating in this study. The study is designed to help the investigator learn more about student adjustment, development, and relationships with classroom peers. My child is free to withdraw from participation at any time and without penalty.

Principal Investigator: Hedwig Teglasi, PhD with Lee Rothman, School Psychologist  
Work Address: Department of Counseling & Personnel Services  
3214 Benjamin Building, University of Maryland  
College Park MD 20742  
Work Phone: 301-405-2867

DATE \_\_\_\_\_

NAME OF PARENT OR  
GUARDIAN \_\_\_\_\_

SIGNATURE OF PARENT OR  
GUARDIAN \_\_\_\_\_

*Teacher consent form*

Children's Perceived Classroom Peer Support and Correlates: the STORIES Program

I state that I am over 18 years of age, and wish to participate in a program of research being conducted by Hedwig Teglasi, PhD in the Department of Counseling and Personnel Services at the University of Maryland, College Park.

The procedures involve completing three measures by which I will rate the behavior and adjustment of students in my classroom who have received parental permission to participate in the study. These measures will be completed twice during the course of the school year: during a three week period during the Fall of 2002, and again during a three week period during the Spring of 2003. The measures are:

1. Behavior Assessment Scale for Children
2. Teacher Rating Scale for Bullies, Victims, and Helpers
3. Colorado Childhood Temperament Inventory

All information collected in this study is confidential. Given the need to collect information at various points in time, a file will be established for each student for whom measures are completed, with an assigned identification number. After all information has been collected, the names will be removed. In the meantime, the files will be located in a secure file cabinet in a faculty office at the University of Maryland College Park. This project does not involve any undue risks, and procedures are similar to activities I might otherwise be asked to perform as a professional in the educational field.

This project is not designed to help me personally, but to help the investigator learn more about student adjustment, development, and relationships with classroom peers. I am free to ask questions or to withdraw from participation at any time and without penalty. The University of Maryland does not provide any medical or hospitalization insurance for participants in this research study nor will the University of Maryland provide any compensation for any injury sustained as a result of participation in this research study, except as required by law.

Principal Investigator: Hedwig Teglasi, PhD

Work Address: Department of Counseling & Personnel Services  
3214 Benjamin Building, University of Maryland  
College Park MD 20742

Work Phone: 301-405-2867

NAME OF PARTICIPANT \_\_\_\_\_

SIGNATURE OF PARTICIPANT \_\_\_\_\_

DATE \_\_\_\_\_

Appendix B

Student Assent Form



I am going to participate in activities about friendship and getting along with others.

I agree that I will do my best to answer questions about friendship and how I get along with others in my classroom. I know that if I do not want to answer questions, I do not have to, and I can go back to my classroom. If I have any questions, I will ask right away!

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Class: \_\_\_\_\_

## Appendix C

### Standardized Introductions for Interview 1 and Interview 2

#### INTERVIEW 1: STANDARDIZED INTRODUCTION

Thank the child for coming. Remind the child that you'll be working together on the activities that the "ladies who came to your class" talked about.

#### BEFORE STARTING, SAY...

"You and I will be doing lots of different things today! First I'll ask you to tell me some stories, then I'll read some stories to you and ask you some questions, and then I'll ask you to listen to some questions and tell me the answers. But first, just like your parents had to sign a permission form to allow you to participate, I'd like to get your permission too!"

Present the assent form and read it to the child. Ask the child if they'd like to do the activities. If the child says "yes", have the child sign their name on the assent form. The examiner may write in the date and teacher's name for the child to save time. (If the child says "no" and does not want to participate, take the child back to his/her classroom.)

#### BEFORE EACH ACTIVITY, SAY...

"There are no right or wrong answers. Just do your best."

#### INTERVIEW 2: STANDARDIZED INTRODUCTION

Remind the child of the assent form he/she signed before and make sure the child still wants to participate. If the child does not want to participate, take the child back to class.

#### BEFORE STARTING, SAY...

"Today I'll be asking you to do lots of different things that will help me to understand what kids are like. I'll be asking you to tell me some things about you, and I'll be asking you to tell me some things about the kids in your class."

Begin sociometric administration.



## Appendix D

### Interview One and Interview Two Measures

#### Interview one measures in order of administration

- Social Information Processing & Emotion Understanding (Dodge, Laird, Lochman, & Zelli, 2002)
- Listening Test (Barrett, Huisingh, Zachman, Blagden, & Orman, 1992)
- Thematic Apperception Test (TAT) (Morgan & Murray, 1935)

#### Interview two measures in order of administration

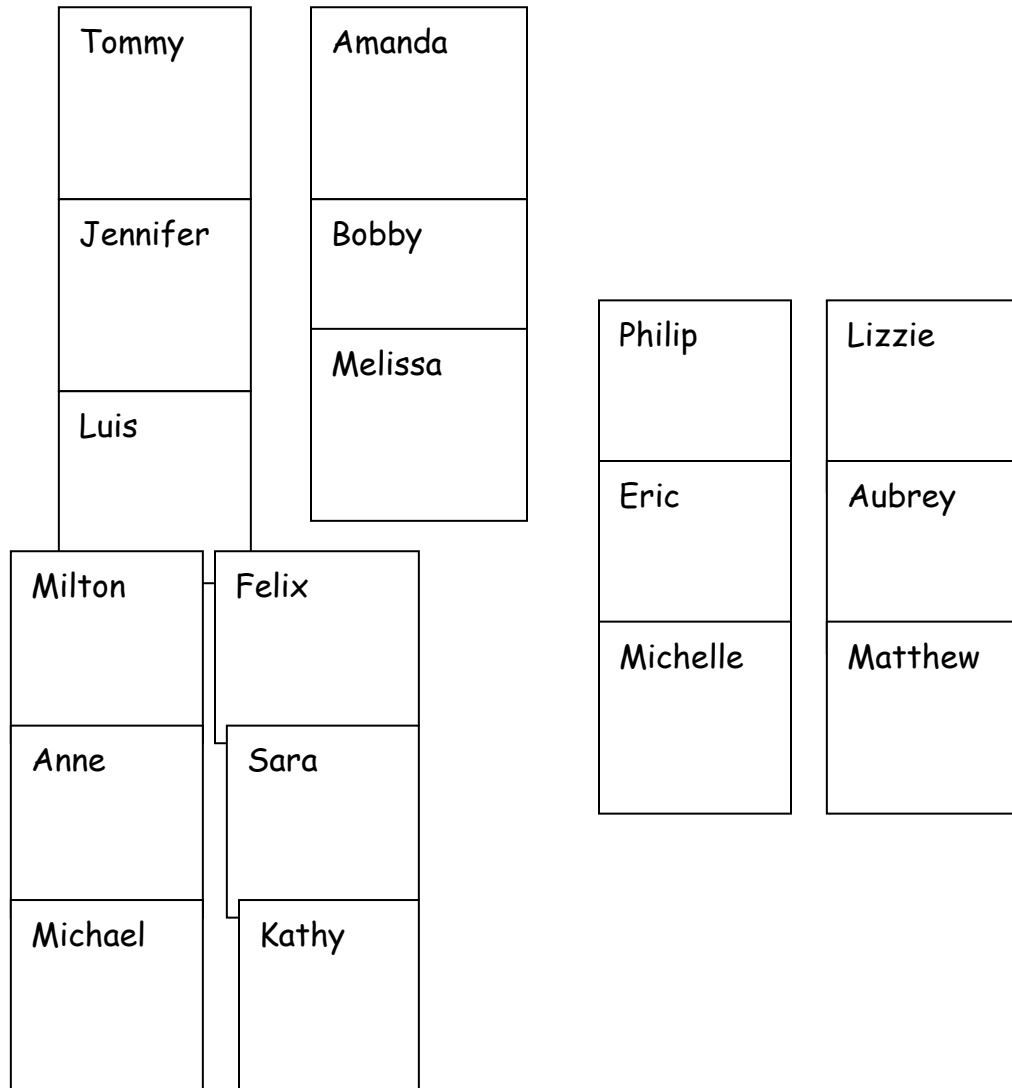
- Sociometric Peer Rating Procedure\*
- Sociometric Peer Nomination Procedure\*
- Understanding & Importance of Peer Support Procedure\*
- Self-Perception Profile for Children (SPPC; Harter, 1985)\*
- Multidimensional Anxiety Scale for Children – short form (MASC-10; March, 1997)\*
- Children’s Depression Inventory – short form (CDI-S; Kovacs, 1992)\*
- Multidimensional Peer Victimization Scale (Mynard & Joseph, 2000)
- Children’s Inventory of Anger (ChIA; Nelson & Finch, 2000)\*

\* Measures currently under study

Appendix E

Sample Classroom Layout

***TEACHER'S NAME***



## Appendix F

### Sociometric Administration Procedure

#### PART 1: PEER ACCEPTANCE RATING ADMINISTRATION PROCEDURE

Interviewer:

“This is a drawing of all the kids in your class. Now sometimes there are kids that you may like a lot and kids you may not like so much, but that’s okay because everyone is different. I’m going to ask you which kids you like and which you don’t like so much. But I don’t want you to talk about anything that you and I talk about with anyone else in your class and don’t tell anyone in your class who you picked because it’s important not to hurt anyone’s feelings. It IS okay if you want to talk to me, your teacher, or your mom and dad about who you picked.”(Make sure child understands issue of confidentiality before proceeding.) Start with the first person here (point and say the name). Is this someone that you like a lot? Someone you like a little? Or is this someone you like the least? (The interviewer continues until the student has given a rating for each student in the class. Comments should be indicated on the recording form. Interviewer may probe periodically to find out why the student has chosen to rate a certain way. If child feels “conflicted” about giving certain responses, let the child know that “it’s okay to feel that way”.)

#### PART 2: CLASSROOM PEER SOCIAL SUPPORT NOMINATION ADMINISTRATION PROCEDURE

Interviewer:

“Now I’d like to talk to you about all the different *kinds* of kids in your class so that you can help me to get to know what your class is like. Now some kids do nice things while other kids do not so nice things because kids are different, but it’s always important for everyone to try to get along. Here is a drawing of *your* class. I’m going to say some things that describe different kinds of kids and the different things that kids may do at school. Look at the drawing to help you remember, and if what I say matches children in your class, say their names. If there’s no one who matches what I said, just say, *no one*. (Give practice items to make sure child understands the procedure.)

Practice Item 1: Kids you like to talk to at school

Practice Item 2: Kids who bring their dog to school

(Once child demonstrates understanding of the procedure, give actual items. Child does not have to pick every child in the class. If the child only gives one person, ask if there are any other children.)

### PART 3: UNDERSTANDING & IMPORTANCE OF CLASSROOM PEER SOCIAL SUPPORT ADMINISTRATION PROCEDURE

This portion of the interview should be audiotaped. In addition, take notes on the child's answers.

To start, interviewer asks:

"How have you helped other kids?"

"How have other kids helped you?"

I1: "How important is it for someone to help if others were mean to you? Is it very important, kind of important, or not important?"

I2: "How important is it for someone to save you a seat (on the bus, in the cafeteria, etc.)? Very important, kind of important, or not important?"

I3: "How important is it for someone to say something to make you feel better if you were upset? Very important, kind of important, or not important?"

I4: "How important is it for someone to ask you for your help with a problem they had? Very important, kind of important, or not important?"

---

### CONCLUSION

Interviewer should again stress the issue of confidentiality and make sure the child understands that he/she is not to share responses with other children but should talk to an adult (teacher or parent) if he/she needs to. The interviewer should also ask the child if he/she has any questions about anything discussed during the interview.

Sociometric Administration Form

															CHILD'S NAME
															C7: Kids who are your good friends
															R3: Kids who try to keep certain people from being in their group when it is time to play or do an activity
															P2: Kids who do nice things for others
															C6: Kids who you would ask to help you with a problem
															C10: Kids who would share their lunch with you if yours was lost
															R4: Kids who when they are mad at a person, get even by keeping that person from being in their group of friends
															O3: Kids who call other kids mean names
															P1: Kids who are good leaders
															O4: Kids who say mean things to other kids to insult them or put them down
															C4: Kids who you would ask to do something "fun"
															V4: Others do mean things to these kids
															P3: Kids who help others
															V6: Others try to hurt these kids' feelings
															P4: Kids who try to cheer up others who are upset or sad about something
															C9: Kids who would save you a seat
															O5: Kids who tell others they will beat them up unless the kids do what they say
															R5: Kids who try to make other kids not like a person by spreading rumors or talking behind their back

Sociometric administration form continued

										CHILD'S NAME
										O2: Kids who push and shove others around
										R1: Kids, who when mad at a person, ignore the person or stop talking to them
										R2: Kids who tell friends they will stop liking them unless the friends do what they say
										V1: Others make fun of these kids
										C8: Kids who would listen carefully to what you have to say
										C3: Kids who would ask you to play or do something with them
										C11: Kids who are not in your class who are your friends (ask if little support was expressed above)
										C5: Kids you would help
										V2: Others beat up these kids
										C1: Kids who would try to help you if someone was mean to you
										V3: Others call these kids names
										C2: Kids who would try to make you feel better if you were upset
										V5: Others pick on these kids
										O1: Kids who hit others
										I like these students a lot
										I like these kids a little
										I like these kids the least

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## Appendix H

### Perceived Classroom Peer Social Support Scale (Teglasi & Lanier, unpublished)

- C1. Kids who would try to help you if someone was mean to you.
- C2. Kids who would try to make you feel better if you were upset.
- C3. Kids who would ask you to play or do something with them.
- C4. Kids you would ask to do something “fun”
- C5. Kids you would help
- C6. Kids you would ask to help you with a problem
- C7. Kids who are your good friends
- C8. Kids who would listen carefully to what you have to say
- C9. Kids who would save you a seat
- C10. Kids who would share their lunch with you if yours was lost
- C11. Kids who are not in your class who are your friends (ask if little support was expressed above).

Note. Items “C1, C2, C5, C6, and C7” only are under investigation in the current study.

## Appendix I

### Coding Scheme for Understanding Classroom Peer Social Support

	<b>SOCIAL/EMOTIONAL</b>	
<b>SUB-CATEGORY</b>	<b>SAMPLE RESPONSES</b>	<b>CODE</b>
Social/Interpersonal	“If someone says something mean, she’ll talk to them for me” “I help them if somebody is trying to bully them.” “I help them stand up to someone that’s bigger.”	S1
Friendship	“When I have no one to play with, he plays with me.” “When we played tag and didn’t have enough people, she played.”	S2
Emotional/Psychological	“I help them feel better by sharing with them.” “I help by being nice to them.” “I help them if they are nervous about something.”	S3
Missed Information	“If I missed something and I don’t know what to do, she told me what I missed and what I have to do” “If I don’t understand directions, they help me” “Sometimes the kids tell me what to do if I was doing something else and not listening”	S4
General Information	“They answer questions.” “I tell them who hit them so they can tell the teacher.” “I help by telling them something they didn’t know.”	S5

	<b>MATERIAL/PHYSICAL</b>	
<b>SUB-CATEGORY</b>	<b>SAMPLE RESPONSES</b>	<b>CODE</b>
Physical	“I took someone to the nurse” “When my nose bled, he picked me up and got me to the nurse.” “If someone is hungry, I share my snack.”	M1
School Materials	“I share my things, like pencils to borrow.”	M2
Incidental	“I pick up or carry stuff.” “I help them when they drop something.” “I throw something in the trash for them.”	M3

	<b>ACADEMIC</b>	
<b>SUB-CATEGORY</b>	<b>SAMPLE RESPONSES</b>	<b>CODE</b>
Specific Help	“He/she helped me with math.” “He/she told me a word when I didn’t know how to read it.”	A1
Learning	“Sometimes someone doesn’t understand so I explain it to them.” “By teaching me how to do something in class.”	A2



## Appendix J

### Procedures Designed to Minimize Risk

The following is a summary of the administration procedures suggested by Bell-Nolan & Wessler, 1998, in order to reduce the risk of adverse impact to the children in the study:

1. Individual administration
2. Active and informed parental consent
3. Child consent (assent) form to be signed after an age appropriate explanation of the study and the procedures
4. Explanation of confidentiality (not secrecy), and reasons (such as sensitivity to others feelings), in context of normalizing preferences. Requesting that responses not be shared with other children, though responses may be discussed with a parent or trusted adult.
5. Assurance that the researcher will not share responses with other children
6. Minimal use of negative nominations—nominating for behavioral characteristics rather than broad dislikes.
7. If no friends are mentioned within the class, unlimited nominations of friends of outside class friends.
8. Examiner will come to class to discuss issues of friendship
9. Embedding sociometric procedures with other measures
10. Proactively seeking information about any concerns regarding the testing procedures and reassuring children as appropriate.

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